

Parts and Operating Manual



Bally

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Telex No.: 72-1596

WARNING

**THIS GAME MUST BE GROUNDED. FAILURE TO DO SO MAY
RESULT IN DESTRUCTION TO ELECTRONIC COMPONENTS.**

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a CLASS A computing device pursuant to SUBPART J of PART 15 of FCC RULES, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

ELECTRICAL BULLETIN: FOR ALL APPARATUS COVERED BY THE CANADIAN STANDARDS ASSOCIATION (CSA) STANDARD C22.2 NO. 1, WHICH EMPLOYS A SUPPLY CORD TERMINATED WITH A POLARIZED 2-PRONG ATTACHMENT PLUG.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR. UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

***Bally*/MIDWAY**
T.M.

Invites You To Use

**OUR TOLL FREE NUMBERS FOR
SERVICE INFORMATION CONCERNING THIS GAME, OR ANY
OTHER BALLY/MIDWAY™ GAME YOU NOW HAVE ON LOCATION.**

**CALL US FOR PROMPT, COURTEOUS
ANSWERS TO YOUR PROBLEMS.**

**Continental U.S. 800-323-7182
Illinois Only 1-800-942-0497**

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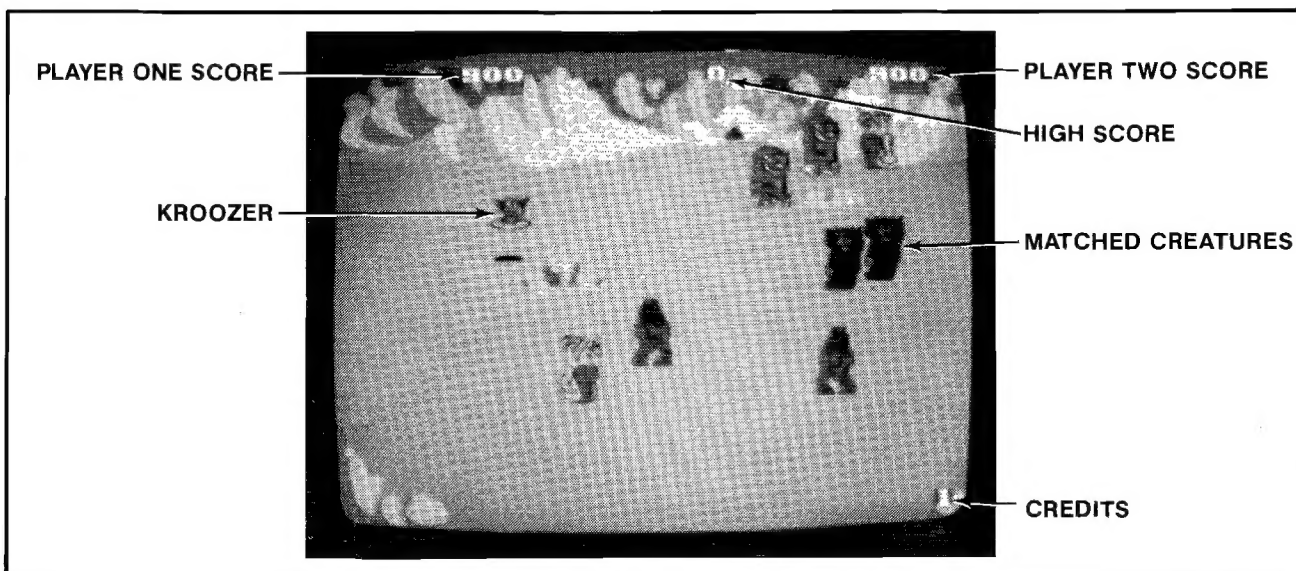
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TABLE OF CONTENTS

DESCRIPTION	PAGE
I. Game Operation	
Attract Mode	1-1
Ready to Play Mode	1-2
Play Mode	1-3
Two Player Operation	1-4
Assigned Point Values	1-6
II. Illustrated Parts Breakdown	
No. 337 — Wacko — Upright — Front	2-2
No. 337 — Wacko — Upright — Front — Parts List	2-3
No. 337 — Wacko — Upright — Rear Access	2-4
No. 337 — Wacko — Upright — Rear Access — Part List	2-5
No. 337 — Wacko — 4 Position Control Assy. — Parts List	2-6
No. 337 — Wacko — 4 Position Control Assy.	2-7
No. 337 — Wacko — Ball Control Assy.	2-8
No. 337 — Wacko — Ball Control Assy. — Parts List	2-9
Wacko — Power Chassis Assy. — 125VA, 115V	2-10
Wacko — Power Chassis Assy. — 125VA, 115V — Parts List	2-11
Wacko — Front Door Assy. — U.S.A. 25¢	2-12
Wacko — Front Door Assy. — U.S.A. 25¢ — Parts List	2-13
No. 337 — Wacko — Upright — Header Fluorescent Light Assy.	2-14
No. 337 — Wacko — Upright — Header Fluorescent Light Assy. — Parts List	2-14
III. Wiring Diagrams & Schematics	
Wiring Diagram	3-1
Power Supply P.C. Board — Component Layout	3-2
Power Supply P.C. Board — Schematic	3-3
Super CPU P.C. Board — Component Layout	3-4
Super CPU P.C. Board — Schematic	3-5
Super Sound I/O P.C. Board — Component Layout	3-6
Super Sound I/O P.C. Board — Schematic	3-7
Video Generator P.C. Board — Component Layout	3-8
Video Generator P.C. Board — Schematic	3-9
Dual Power Amp P.C. Board — Component Layout	3-10
Dual Power Amp P.C. Board — Schematic	3-11
X-Y Ball Sensor P.C. Board — Component Layout	3-12
X-Y Ball Sensor P.C. Board — Schematic	3-13

Wacko

I. Game Operation



Identification of "On-Screen" Graphics During Play

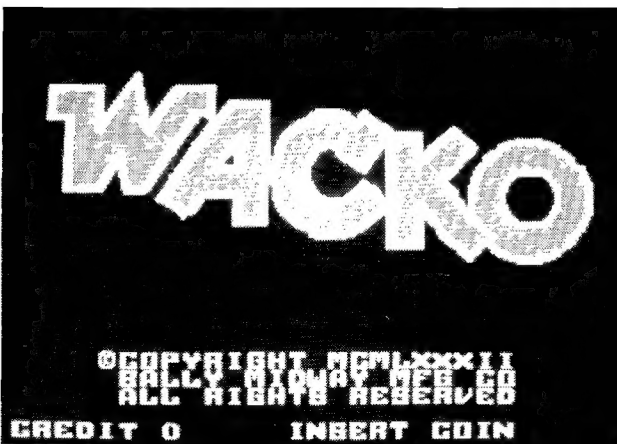
ATTRACT MODE

1. The Attract mode starts:

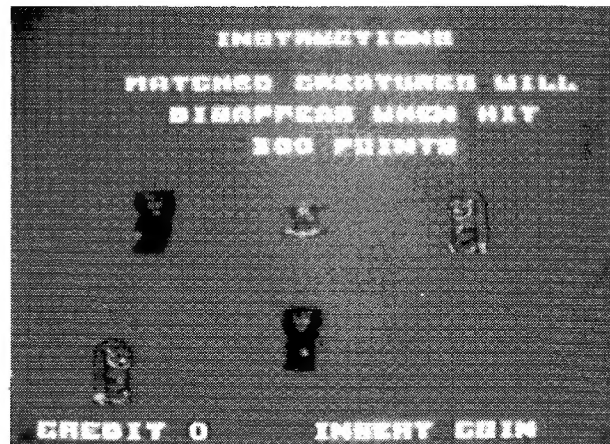
- ☐ Just after power has been turned on to the game. (Self-Test switch is in the "OFF" position.)
- ☐ After a Self-test has been completed and there are no more credits left in the game's memory.
- ☐ After a play has been finished, the score was not high enough to put the game into the High

Score/Initial mode, and there are no more credits left in the game's memory.

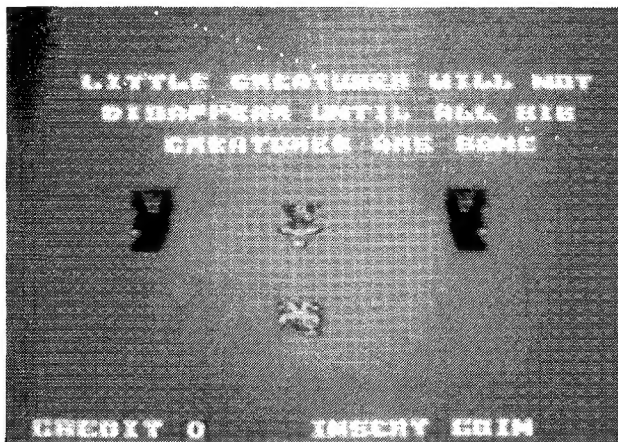
- ☐ After the High Score/Initial mode when there are no more credits left in its memory.
- ☐ In the Attract mode, the game will give the following displays **centered** on the monitor screen:



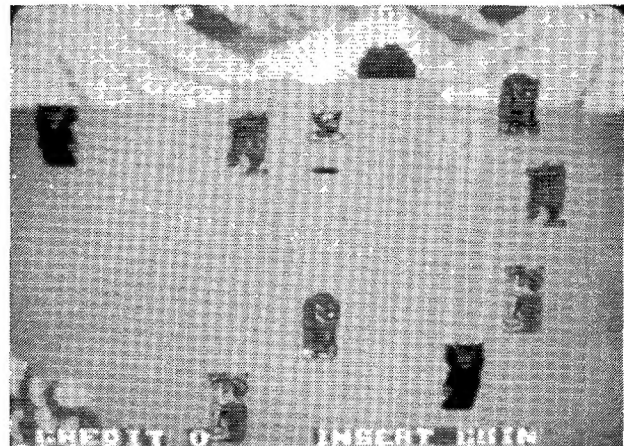
Attract Mode Display 1



Attract Mode Display 2



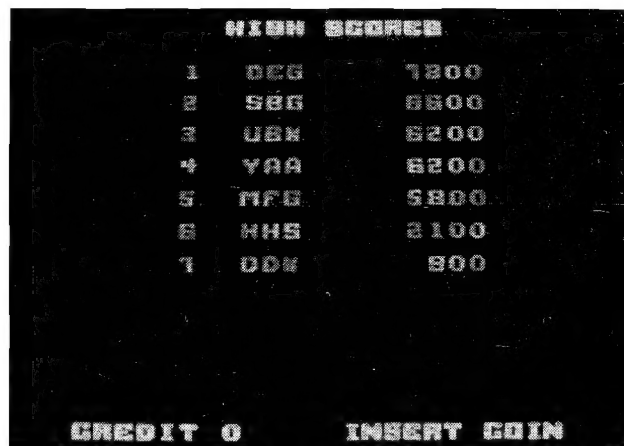
Attract Mode Display 3



Attract Mode Display 5

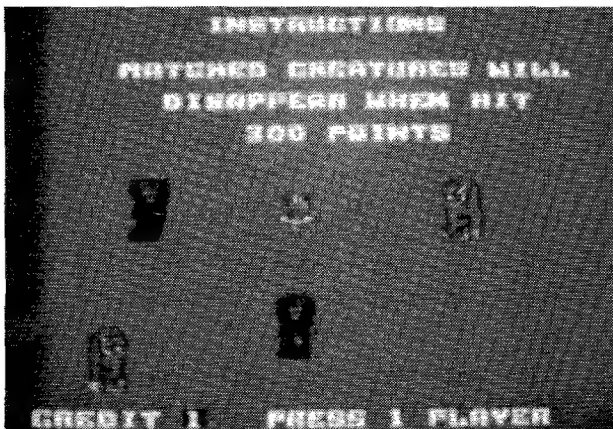


Attract Mode Display 4



Attract Mode Display 6

- ☐ No matter where the game is in the Attract mode sequence, it will immediately go to the following display as soon as a game has been paid for. It will add the words "CREDIT ____" and



Ready To Play Mode Display

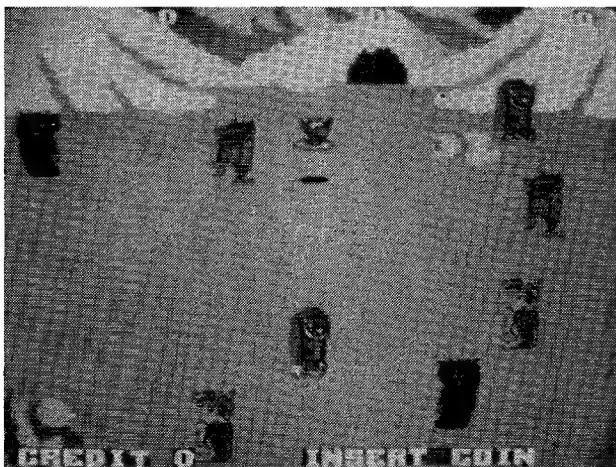
"PRESS 1 PLAYER BUTTON" or "PRESS 1 OR 2 PLAYER BUTTON" to the bottom of this display and all other displays in the Attract mode sequence. These words will remain at the bottom of these displays in the Attract mode sequence until the "1 PLAYER" or the "2 PLAYER" start button is pressed.

READY-TO-PLAY MODE

1. The Ready-To-Play mode starts when enough coins have been accepted for a 1 or 2 player game.
2. The Ready-To-Play mode ends when either the "1 PLAYER" or the "2 PLAYER" push button is pressed.
3. In the Ready-To-Play mode, the game will give the above modified displays **centered** on the monitor screen.
4. If no START button is pressed, the displays will remain modified indefinitely as shown above.

PLAY MODE

1. The Play mode begins when either the "1 PLAYER" or the "2 PLAYER" start button is pressed. (One Player game **ONLY**, game play begins **IMMEDIATELY!**)
2. The Play mode ends when all of your SHIPS have been eliminated. When this happens (One Player game **ONLY**), "GAME OVER" is written across the center of the monitor screen.



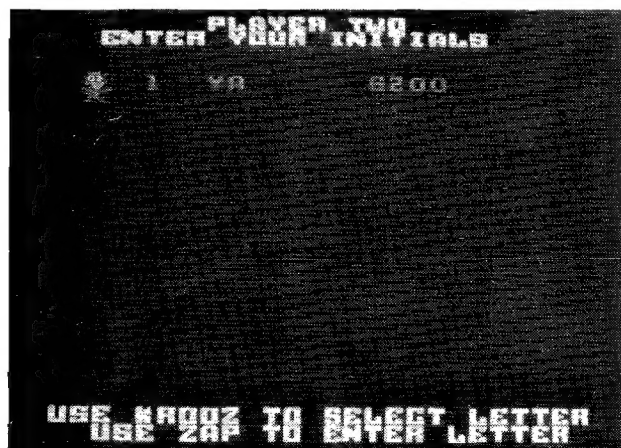
3. **ON THE SCREEN:** The game is made up of groups of 4 sequences for each rack. When play begins your SHIP is on a plain a good distance from the mouth of a cave. In the next sequence, you are a little closer to the mouth of the cave, and so on until in the 4th sequence you are all the way inside the cave. If you survive the cave, you advance to the next rack. In the first sequence of that rack, you are back out on the plain again, a good distance from the mouth of the cave. In the next sequence of this rack, you are a little closer to the mouth of the cave, and so on until in the 4th sequence of this rack you are all the way inside the cave again. This alternating sequence of events continues throughout the game.

At the beginning of each sequence, when a 2 PLAYER game has been selected, the game tells which player is up.

Also indicated in each sequence of each rack is the rack number you're playing, the number of players (1 or 2), a running total of the players' score(s), and the highest game score to date.

4. **PLAY BEGINS:** Your SHIP appears in the center the screen, creatures start appearing around it, and play begins after the last creature has appeared. Your SHIP cannot move until this last creature has appeared.
5. **CREATURES:** Each creature is a dual entity. To shoot only one creature of any given pair only stuns it for a short period of time. When stunned, it will not move about on the screen. Shooting the remaining creature of any given pair while the first is stunned will cause both of these creatures to disappear.
6. **MUTANT CREATURES:** In later racks, mutant creatures can be formed by the player. All he has to do is shoot one creature of any given pair, and, while this creature is stunned, shoot another creature of a **DIFFERENT** given pair. The two shot creatures will exchange body parts to form a mutant. In order to eliminate these mutants, the remaining whole creature of each pair must be mutated as previously described. You now have two complete pairs of mutants which can now be eliminated in the usual manner.
7. **BABIES:** Again, as you move into the higher racks of the game, you will find that as like pairs of creatures/mutants are eliminated — they turn into babies. The babies can be stunned but not eliminated until the last of the creature/mutant pairs have been turned into babies. At this point, the babies can be eliminated. They **DO NOT** have to be shot in pairs. One hit eliminates one baby.
8. **EGGS:** As you move still farther into the more difficult racks, you will find that the babies, when shot, will turn into eggs. The eggs can be stunned but not eliminated until the last of the babies have been turned into eggs. At this point, the eggs can be eliminated. They **DO NOT** have to be shot in pairs. One hit eliminates one egg.
9. **INSIDE THE CAVE:** Game play is essentially the same inside the cave except things look more crowded. The other new thing that you will notice in the cave is that any egg that is shot will hatch and out will come either a bat or a demon. One rack will be bats, the next demons, the next bats, and so on. The bats/demons can be stunned but not eliminated until the last of the eggs has been turned into bats/demons. At this point, the bats/demons can be eliminated. They **DO NOT** have to be shot in pairs. One hit eliminates one bat/demon.
10. **SHIP:** Your SHIP can move in **ANY DIRECTION** on the screen. Its movements are controlled by the ball on the game's control panel.
11. **FIRE CONTROL STICKS:** These control the direction your SHIP will fire in; either left, right, up, or down. There are no in between angles of fire, just those stated above. There are two fire control sticks on the Upright models to allow both left and right handed persons to play the game easily.
12. **BALL CONTROLLER:** By using the ball controller you can position your SHIP at any location you desire on the screen.
13. **BONUS SHIPS:** These can be awarded to the player as he reaches or passes certain preselected point values. This feature is adjustable by the game's Owner/Operator.

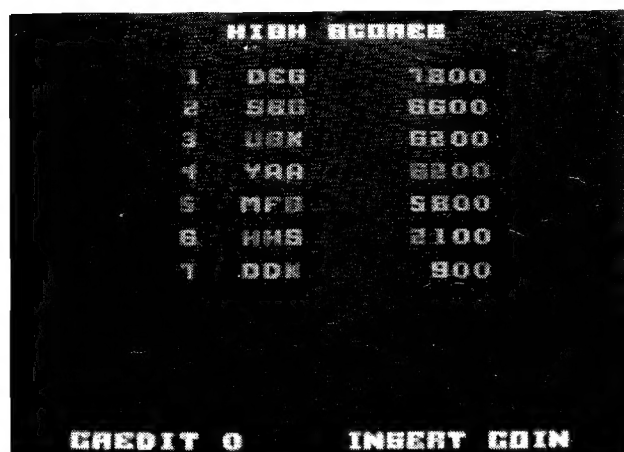
14. **PLAY ENDS:** When your last SHIP is eliminated (1 Player game ONLY), "GAME OVER" is written across the bottom center of the monitor screen.
15. **HIGH SCORE/INITIAL MODE:** If your score was high enough to become one of the ten best scores, the game will go into the High Score/Initial mode immediately after the above display. If your score is not high enough to cause the game to go into the High Score/Initial mode, it will either go to the Attract mode (if there are no more credits left in its memory) or into the Ready-To-Play mode (if there are still credits left in its memory). In the High Score/Initial mode the game gives a display which looks like that shown below.



High Score Initial Mode Display

Follow the ON-SCREEN instructions to enter your initials next to your score in the league of the best ten players to date.

When you've printed out your last initial, move the cursor opposite the "END" word and activate the same control you did to enter your initials. This tells the game you are through printing out your initials. The game will then give the following RANKINGS display showing your score opposite your ranking and your initials.



Rankings Display

NOTE: If you don't tell the game you are through printing out your initials as instructed above, the game will automatically go into the RANKINGS display after a short wait.

After the High Score/Initial mode, the game will either go to the Attract mode (if there are no more credits left in its memory) or into the Ready-To-Play mode (if there are still credits left in its memory).

16. Most of the above holds true in the "2 PLAYER" mode also. But there are a few minor differences.

TWO PLAYER OPERATION

The Upright and Cocktail Table models all have two player operation.

In the two player mode, the rules of play are the same as in the single player mode. There are some additional rules, however.

1. In the Upright models, the players must take turns at the controls.
2. In the Cocktail Table model, each player has his own set of individual controls. The picture will flip to face you when it is your turn. (When it is not your turn, your set of controls will have **NO** effect on the game.)
3. Your turn lasts until your SHIP is eliminated. At this point, the game will do one of several things depending on whether or not the eliminated SHIP was your last or if you still have others remaining in reserve.

ELIMINATED SHIP — OTHERS REMAINING IN RESERVE

- ☐ The game stops and "PLAYER____" is displayed on the screen.
- ☐ Next, the other player's Ship and pattern appear on the monitor screen and game play begins for the other player.

ELIMINATED SHIP — NO OTHERS REMAINING IN RESERVE

- ☐ Game displays: "PLAYER____" "GAME OVER" on the monitor screen.
- ☐ Next, the remaining player's Ship and pattern appear on the monitor screen and game play begins for the other player.
- ☐ After the last player's last SHIP is eliminated, and if either or both scores were high enough, it goes to the "HIGH SCORE/INITIAL" mode. If neither players' score was high enough to cause the game to go into the "HIGH SCORE/INITIAL" mode, the game will either go to the Attract mode (if there are no more credits left in its memory) or into the Ready-To-Play mode (if there are still credits left in its memory).

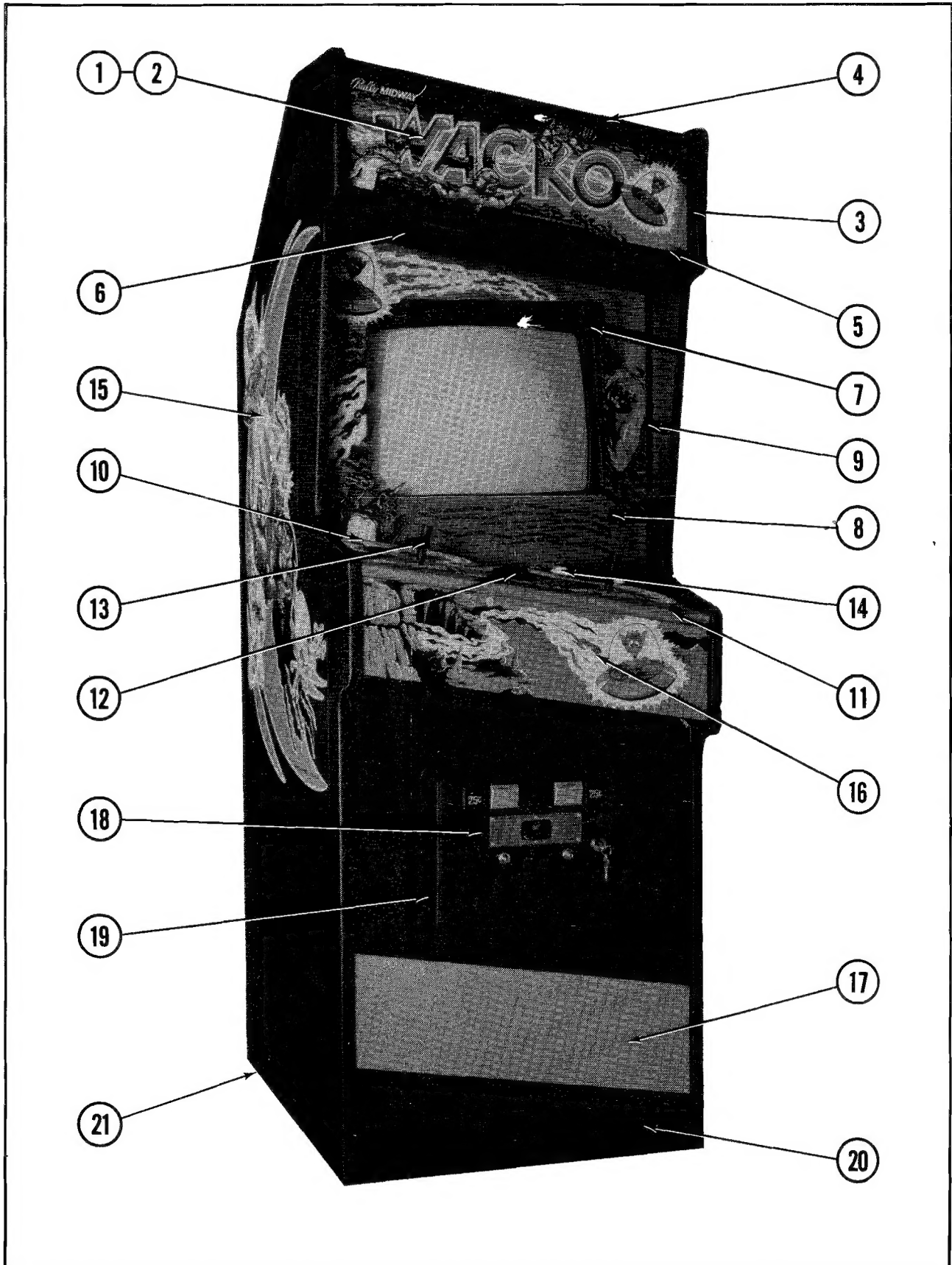
ASSIGNED POINT VALUES

WACKO SCORING		
DESCRIPTION	POINTS AWARDED	NOTES
MATCHED PAIRS	300 POINTS EACH PAIR	
MUTANT PAIRS	500 POINTS EACH PAIR	
BABIES	150 POINTS EACH	CANNOT BE DESTROYED UNTIL ALL MATCHED AND MUTANT PAIRS ARE DESTROYED.
EGGS	500 POINTS EACH	ABOVE NOTE APPLIES.
BAT/DEMONS	750 POINTS EACH	ABOE NOTE APPLIES.

SEE INSIDE BACK COVER FOR OPTION SWITCH SETTINGS

II. Illustrated Parts Breakdown

NO. 337 — WACKO — UPRIGHT — FRONT

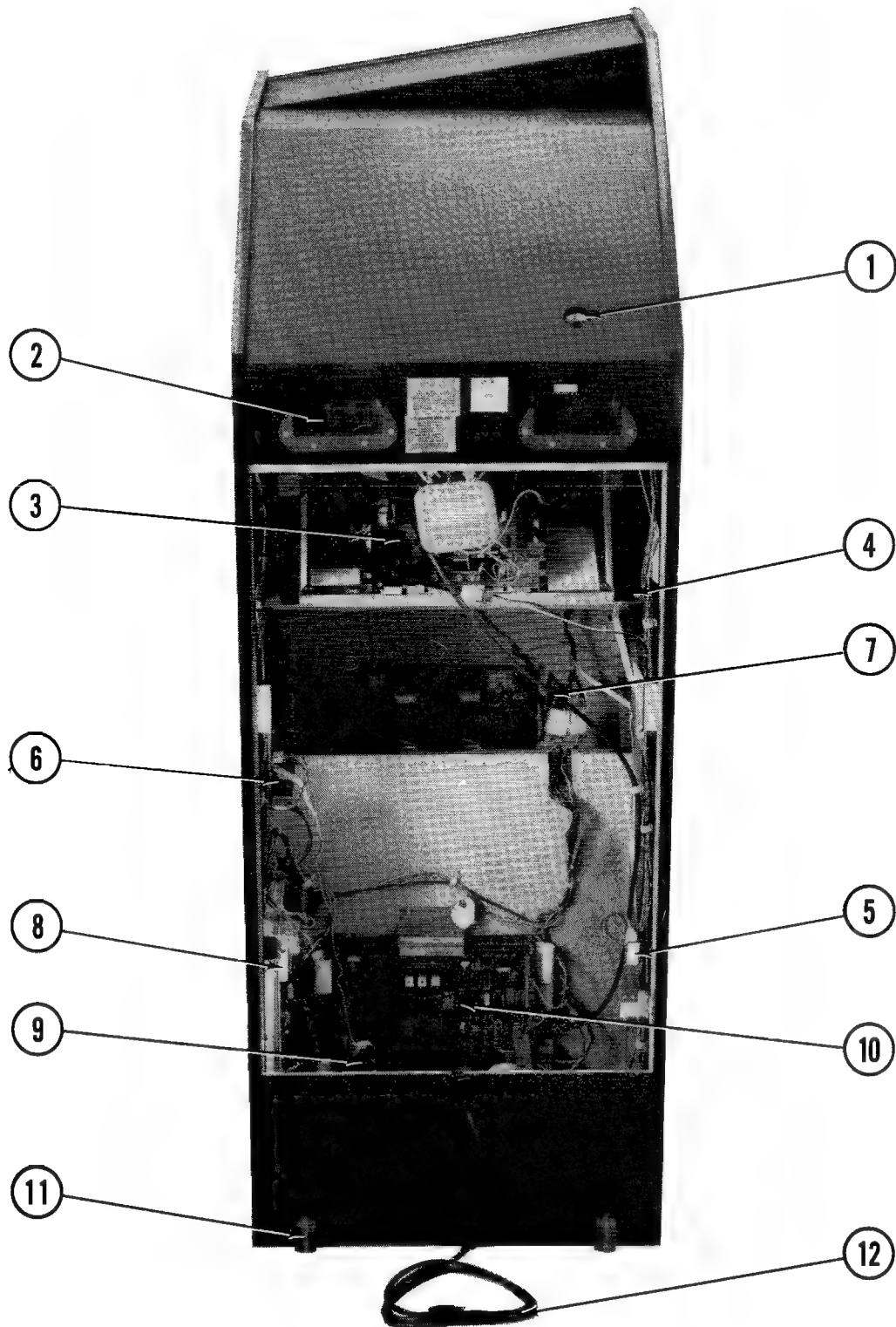


NO. 337 — WACK — UPRIGHT — FRONT PARTS LIST

ORDER BY PART NUMBER **ONLY**

ITEM	PART NO.	DESCRIPTION
1	0337-00900-00XF	HEADER DISPLAY PLEXI
2	A595-00011-0000	FLUORESCENT HEADER LIGHT ASSY.
3	0537-00903-0064	GLASS CHANNEL — 6-7/8" LG. (2 REQ'D.)
4	0337-00902-0000	HEADER RETAINING BRKT. (2 REQ'D.)
	0017-00101-0138	#8 x 5/8 TORX PAN HD. TAMPER RESISTANT SCREW (10 REQ'D.)
	0017-00009-0522	LONG ARM KEY T-20 (FOR ABOVE SCREW)
5	0017-00042-0323	COIN HOLDER
6	0017-00009-0393	BLACK SPEAKER GRILL W/SLOTS (2 REQ'D.)
	0017-00003-0430	6" x 9" SPEAKER — 4 OHM, 10W. (2 REQ'D.)
	0017-00101-0127	#8-32 x 1-1/2 CARRIAGE BOLT (8 REQ'D.)
	0017-00103-0061	#8-32 HEX NUT W/SEMS (8 REQ'D.)
7	0337-00904-0000	19" T.V. BEZEL
8	0337-00901-00XF	MAIN VIEWING GLASS
9	0537-00903-0002	GLASS CHANNEL — 22" LG.
	0537-00903-0065	GLASS CHANNEL — 25-7/8 LG. (OPPOSITE SIDE)
10	0629-00902-0900	GLASS LIFT CHANNEL — 22-1/4" LG.
11	A337-00014-0000	CONTROL PLATE & OVERLAY ASSY.
	A337-00013-0000	CONTROL SHELF PLATE WELDMENT W/STRIKES ASSY.
	0337-00903-0000	DECORATIVE OVERLAY
	0337-00103-0100	CONTROL SHELF MTG. BRKT. — RIGHT
	0337-00103-0200	CONTROL SHELF MTG. BRKT. — LEFT
	0555-00901-0000	PLASTIC LOCATING PIN (4 REQ'D.)
	0017-00009-0534	BASSICK CLAMP (2 REQ'D.)
	0017-00101-0141	#8 x 11/16 UNSLOT HEX HD. SCR. (8 REQ'D.)
	0316-00903-0000	CONTROL SHELF STRAP
12	A337-00015-0000	BALL CONTROL ASSY.
13	A337-00020-0000	4 POSITION CONTROL ASSY. (2 REQ'D.)
	A337-00006-0000	CONTROL SHELF CABLE ASSY.
14	0017-00042-0260	PUSH BUTTON ASSY. — WHITE (2 REQ'D.)
	0017-00032-0093	PUSH BUTTON SWITCH W/HOLDER (2 REQ'D.)
	0017-00103-0054	5/8-11 PAL NUT (2 REQ'D.)
15	0337-00909-0200	DECAL — LEFT SIDE
	0337-00909-0100	DECAL — RIGHT SIDE (NOT SEEN)
16	0337-00907-0000	DECAL — APRON CONTROL
17	0337-00908-0000	DECAL — FRONT
18	A090-00300-11BK	U.S.A. 25¢ DOUBLE COIN DOOR ASSY.
	A982-00015-0000	COIN DOOR CABLE ASSY.
19	0090-00002-04BK	LARGE BLACK COIN DOOR FRAME
	0017-00101-0121	#6-32 x 5/16 PHIL. TRS. HD. SCR. (3 REQ'D.)
20	0935-00906-0100	KICK PLATE — 23" LG.
21	0017-00102-0048	3/8-16 x 2" LEG LEVELERS (4 REQ'D.)
	0017-00103-0026	3/8-16 LEG LEVELER HEX NUTS (4 REQ'D.)

NO. 337 — WACK — UPRIGHT — REAR ACCESS



NO. 337 — WACKO — UPRIGHT — REAR ACCESS — PARTS LIST

ORDER BY PART NUMBER ONLY

ITEM	PART NO.	DESCRIPTION
1	A945-00038-0000	ON-OFF SWITCH & PLATE ASSY.
2	0894-00916-0000	PLASTIC PULL & VENT (2 REQ'D.)
	0017-00101-0141	#8 x 11/16 UNSLOT HEX HD. M.S. (8 REQ'D.)
3	0017-00003-0339	ELECTROHOME — 19" COLOR DUAL SYNC. HORIZONTAL MTG. MONITOR (OR)
3	0017-00003-0439	WELLS-GARDNER — 19" COLOR DUAL SYNC. HORIZ. MTG. MONITOR (OR)
3	0017-00003-0454	ZENITH — 19" COLOR HORIZ. MTG. MONITOR
	0508-00106-0000	T.V. BEZEL MTG. BRKT.
4	0636-00101-0000	MONITOR RAIL (2 REQ'D.)
	0555-00901-0000	PLASTIC LOCATING PIN (4 REQ'D.)
	0017-00101-0141	#8 x 11/16 UNSLOT. HEX HD. M.S. (8 REQ'D.)
5	A088-00016-0000	INTERLOCK SWITCH & SPRING BRKT. ASSY.
6	A082-90910-E000	DUAL POWER AMP P.C. BOARD ASSY.
7	A333-00012-0000	CREDIT SWITCH & BRKT. ASSY.
8	A082-90412-D000	POWER SUPPLY P.C. BRD. ASSY.
	0624-00902-0100	P.C. SUPPORT BRKT. — 12" LG. (2 REQ'D.)
	0624-00902-0500	P.C. SUPPORT BRKT. — 6-1/2" LG. (2 REQ'D.)
	0017-00101-0141	#8 x 11/16 UNSLOT. HEX HD. M.S. (12 REQ'D.)
	0017-00104-0037	#8 FLAT WASHER (12 REQ'D.)
9	A945-00020-0000	POWER CHASSIS ASSY. — 125VA., 115V.
10	A337-00004-0000	CARD RACK W/BOARDS ASSY.
	A084-90010-A337	SUPER CPU P.C. BOARD ASSY.
	A084-90913-A337	SUPER SOUND I/O P.C. BOARD ASSY.
	A084-91399-A337	VIDEO/GENERATOR P.C. BOARD ASSY.
	0986-00701-00XF	TREADED SPACER (4 REQ'D.)
	0986-00702-00XF	SPACER (4 REQ'D.)
	0017-00101-0153	#6-32 x 1" PHIL. RND. HD. SCREW (4 REQ'D.)
	0017-00101-0339	#6-32 x 3/8 PHIL. RND. HD. SCREW (4 REQ'D.)
11	A961-00007-0000	CASTER ASSY. (2 REQ'D.)
	0961-00109-0000	WHEEL BRKT. (2 REQ'D.)
	0017-00042-0255	PLASTIC WHEEL (2 REQ'D.)
	0894-00702-00XF	SHAFT (2 REQ'D.)
	0017-00100-0037	3/8" E-RING (2 REQ'D.)
12	A945-00019-0000	LINE CORD ASSY.

NO. 337 — WACKO — UPRIGHT — REAR ACCESS — PARTS LIST (Continued)

ORDER BY PART NUMBER ONLY

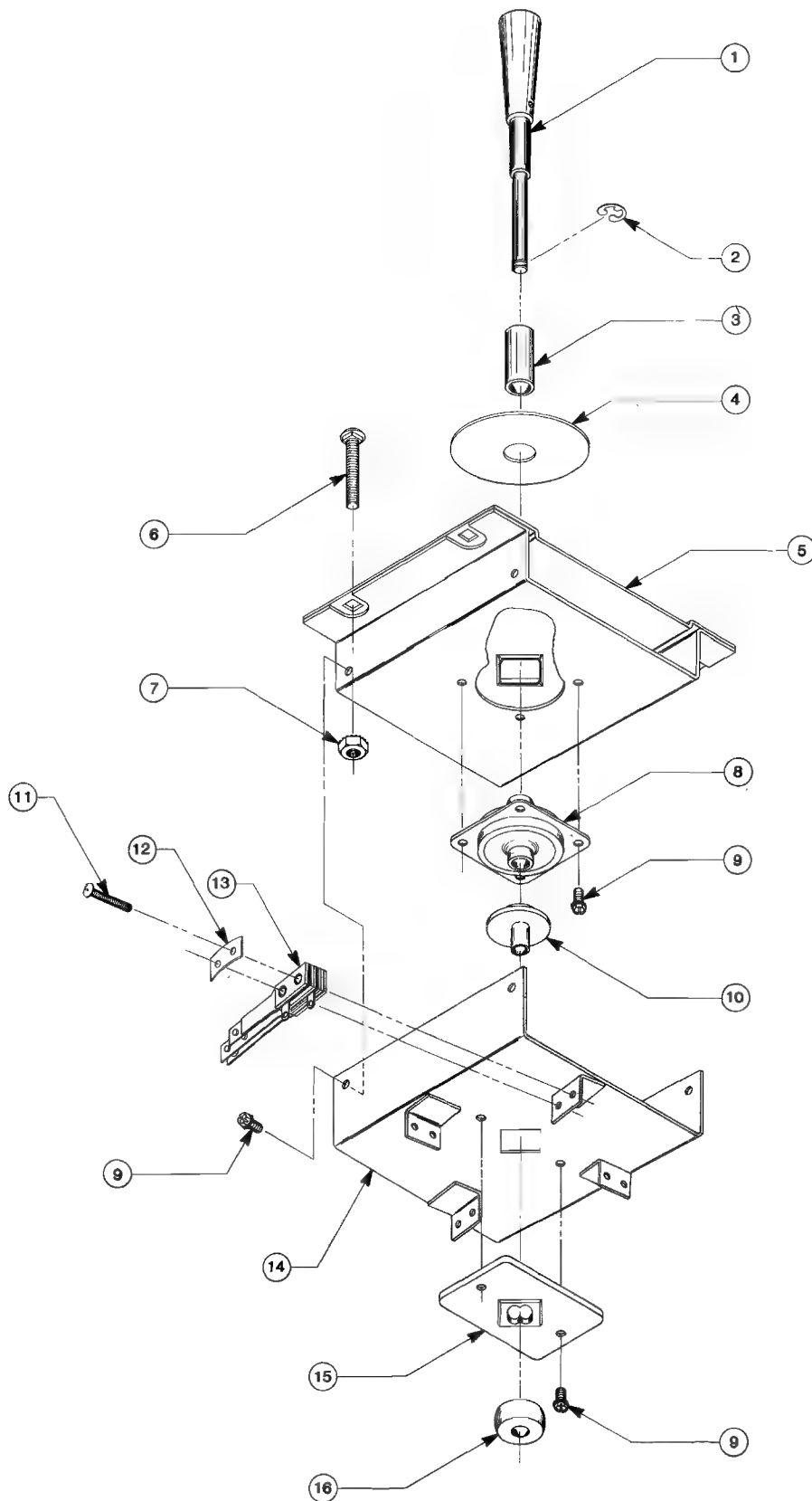
ITEM	PART NO.	DESCRIPTION
		ADDITIONAL PARTS LIST
	A097-00009-0000	BACK DOOR LOCK ASSY.
	0017-00009-0490	5-5/8" SQR. VENT GRILL — BACK DOOR (4 REQ'D.)
	A950-00004-0000	COIN BOX ASSY.
	A950-00006-0000	COIN BOX CRADLE ASSY.
	0950-00105-0000	COIN BOX COVER
	0950-00104-0000	COIN BOX HANDLE
	0950-00101-0000	COIN DEFLECTOR (2 REQ'D.)
	0950-00900-0000	LARGE PLASTIC COIN BOX
	0950-00103-0000	COIN BOX DIVIDER — OPTIONAL
	0017-00101-0142	1/4-20 x 1-3/8 BLACK RND. HD. BOLT (4 REQ'D.)
	0017-00104-0014	7/8" DISH WASHER (4 REQ'D.)
	0017-00103-0018	1/4-20 HEX NUT (4 REQ'D.)
	A337-00008-0000	MASTER CABLE W/BRKT. ASSY.
	A337-00010-0000	HIGH VOLTAGE CABLE ASSY.
	A316-00010-0000	LOW VOLTAGE CABLE ASSY.
	A337-00018-0000	VIDEO CABLE ASSY.
	A337-00019-0000	AUDIO CABLE ASSY.

NO. 337 — 4 POSITION CONTROL ASSY. — PARTS LIST

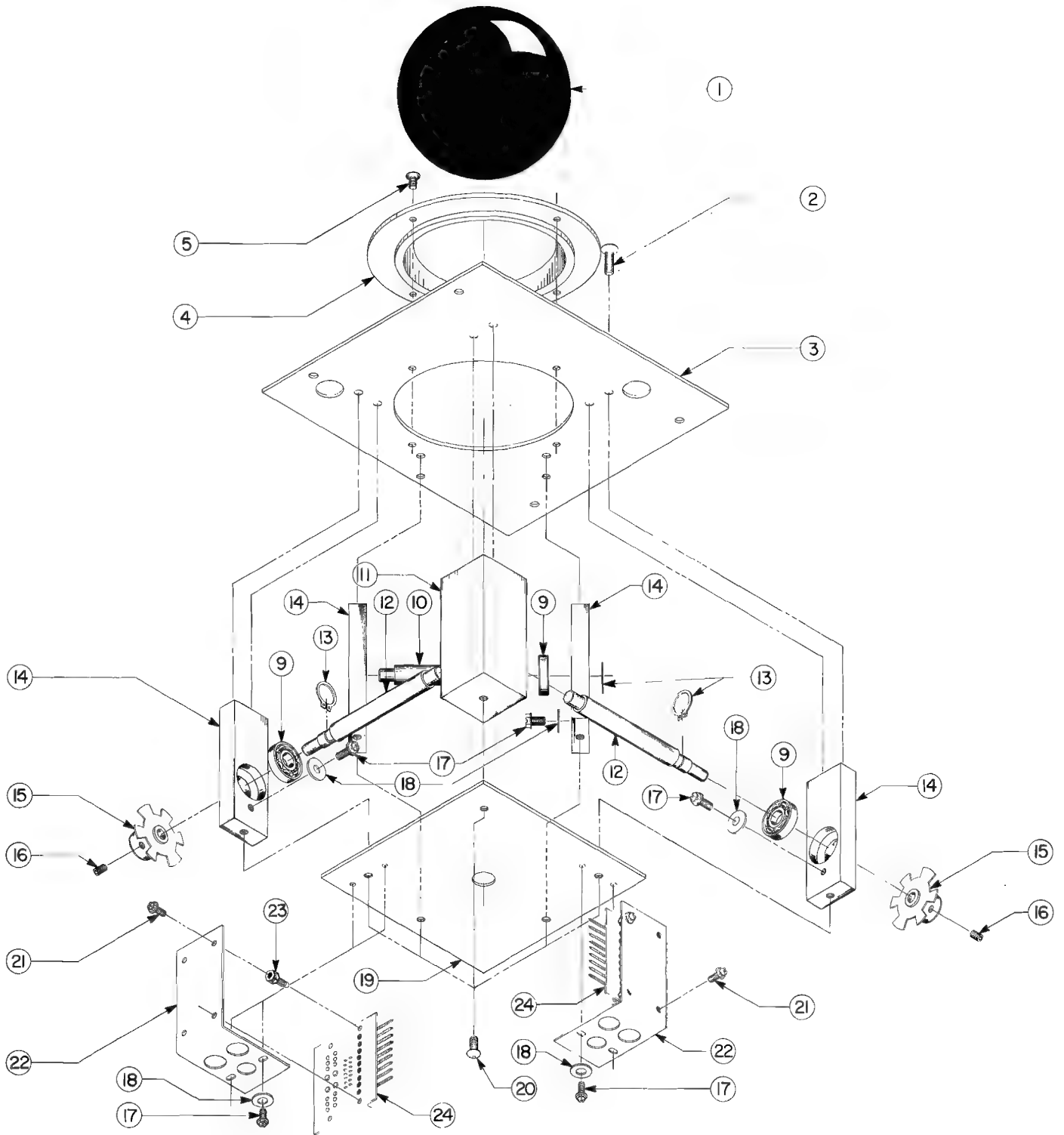
ORDER BY PART NUMBER ONLY

ITEM	PART NO.	DESCRIPTION
1	A337-00021-0000	HANDLE ASSY.
2	0017-00100-0025	1/4" E-RING
3	0337-00708-0000	STOP SPACER
4	0530-00907-0000	SLIDE PLATE
5	A982-00019-0000	PIVOT PLATE WELD ASSY.
6	0017-00101-0637	#8-32 x 1" CARRIAGE BOLT (4 REQ'D.)
7	0017-00103-0061	#8-32 HEX NUT W/SEMS (4 REQ'D.)
8	0337-00911-0000	GROMMET
9	0017-00101-0598	#8-32 x 5/16 SLT. HEX HD. M.S. (10 REQ'D.)
10	0337-00906-0000	SLEEVE
11	0017-00101-0528	#5-40 x 3/4 PHIL. RND. HD. SCR. (8 REQ'D.)
12	0020-00202-0000	SWITCH PLATE (4 REQ'D.)
13	A337-00017-0000	SWITCH ASSEMBLY (4 REQ'D.)
14	A932-00012-0000	STOP PLATE & SWITCH BRKT. ASSY.
15	0337-00905-0000	WEAR PLATE
16	0921-00700-0000	ACTUATOR

NO. 337 — 4 POSITION CONTROL ASSY.



NO. 337 — WACKO — BALL CONTROL ASSEMBLY



NO. 337 — WACKO — BALL CONTROL ASSEMBLY — PARTS LIST*ORDER BY PART NUMBER ONLY*

ITEM	PART NO.	DESCRIPTION
1	0017-00041-0625	3" DIA. BLACK RUBBER BALL
2	0017-00101-0120	#10-24 x 1/2 HEX FLAT HD. M.S. (10 REQ'D.)
3	0337-00101-0000	BALL CONTROL MTG. PLATE
4	0337-00910-0000	BALL RING
5	0017-00101-0550	#6-32 x 1/4 PHIL. FLAT HD. M.S. (4 REQ'D.)
9	0017-00006-0085	ROLLER BEARING (6 REQ'D.)
10	0337-00705-00XF	IDLER SHAFT
11	0337-00702-0000	MAIN POST
12	0337-00704-00XF	SHAFT (2 REQ'D.)
13	0017-00100-0114	RETAINING RING (3 REQ'D.)
14	0337-00703-0000	END POST (4 REQ'D.)
15	A643-00010-0000	BUSHING & DISC ASSY. (2 REQ'D.)
16	0017-00101-0302	#6-32 x 3/16 HEX HD. SOCKET SET SCR. (4 REQ'D.)
17	0017-00101-0599	#8-32 x 3/8 SLT. HEX S.M.S. (7 REQ'D.)
18	0017-00104-0026	#8 FLAT WASHER (7 REQ'D.)
19	0337-00104-0000	BALL CONTROL PLATE — BOTTOM
20	0017-00101-0119	#10-24 x 1/2 HEX BUT HD. M.S. (5 REQ'D.)
21	0017-00101-0099	#6 x 1/4 SLT. HEX HD. M.S. (8 REQ'D.)
22	0889-00103-00XF	SENSOR P.C. MTG. BRKT. (2 REQ'D.)
23	0017-00042-0285	1/4" P.C.B. SPACER (8 REQ'D.)
24	A084-91429-C000	X-Y BALL SENSOR P.C. BRD. ASSY. (2 REQ'D.)

This photograph shows a detailed view of an electronic assembly, possibly a power supply or motor controller, mounted on a metal chassis. The assembly includes a large central transformer with a label that reads "MOTOR 1/2 HP 115V 50/60 Hz". Other components visible include capacitors, resistors, and a terminal block. The assembly is secured with screws and has various wires connected to it. The numbered callouts (1-27) identify the following components:

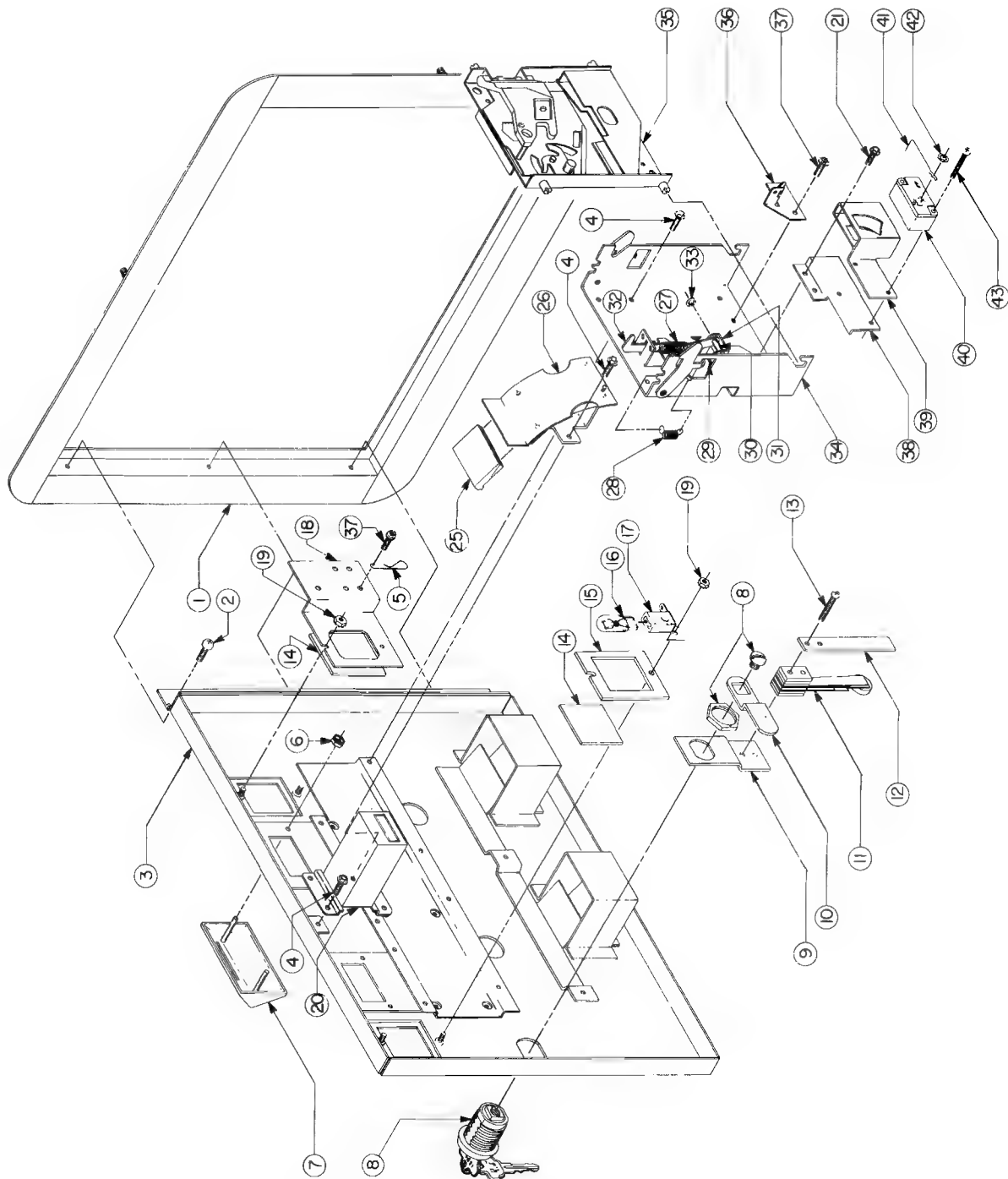
- 1: Main chassis plate
- 2: Transformer core
- 3: Transformer label
- 4: Terminal block
- 5: Transformer winding
- 6: Transformer core
- 7: Transformer core
- 8: Transformer core
- 9: Transformer core
- 10: Transformer core
- 11: Transformer core
- 12: Transformer core
- 13: Transformer core
- 14: Transformer core
- 15: Transformer core
- 16: Transformer core
- 17: Transformer core
- 18: Transformer core
- 19: Transformer core
- 20: Transformer core
- 21: Transformer core
- 22: Transformer core
- 23: Transformer core
- 24: Transformer core
- 25: Transformer core
- 26: Transformer core
- 27: Transformer core

WACKO — POWER CHASSIS ASSY. — 125VA., 115V. — PARTS LIST

ORDER BY PART NUMBER ONLY

ITEM	PART NO.	DESCRIPTION
1	0945-00104-00XF	CHASSIS
2	A945-00029-0100	MTG. PLATE & BARRIER ASSY.
3	0945-00107-01XF	STRAP (2 REQ'D.)
4	0017-00101-0123	#8 x 1/4 UNSLOT. HEX HD. SCR. (12 REQ'D.)
5	MT00-00101-A000	ISOLATION TRANSFORMER W/O SHIELD ASSY. — 115V., 50/60 HZ.
	0017-00103-0061	#8-32 HEX NUT W/SEMS (4 REQ'D.)
6	MT00-00099-A000	POWER TRANSFORMER ASSY. — 115V., 60 HZ.
	0017-00103-0084	#6-32 HEX NUT W/SEMS (4 REQ'D.)
7	0175-181T4-GXJK	CAPACITOR — 3.5 M.F., 440V.
8	0017-00009-0535	CLAMP
	0017-00101-0565	#6-32 x 7/16 SLT. PAN HD. SCR.
	0017-00103-0084	#6-32 HEX NUT W/SEMS
9	0017-00101-0067	#6 x 3/8 PHIL. PAN HD. SCR. (11 REQ'D.)
	0945-00103-00XF	PARTITION — LOCATED UNDER CHASSIS (NOT SEEN)
10	0945-00902-0000	SNAP BUSHING (3 REQ'D.)
11	0017-00021-0297	2 POSITION CONNECTOR
12	A945-00030-0100	CONNECTOR & CABLE ASSY. #1
13	A945-00030-0200	CONNECTOR & CABLE ASSY. #2
14	A945-00021-0000	CONVENIENCE OUTLET ASSY.
15	0017-00101-0573	#6-32 x 1/2 PHIL. RND. HD. SCR. (2 REQ'D.)
	0017-00103-0084	#6-32 HEX NUT W/SEMS (2 REQ'D.)
	A945-00025-0000	FILTER ASSEMBLY — 125V. — UNDER CHASSIS (NOT SEEN)
16	0017-00021-0510	TERMINAL STRIP
17	0017-00101-0140	#4-40 x 5/16 PHIL. PAN HD. SCR. (2 REQ'D.)
18	0017-00003-0263	SLO-BLO FUSE — 4A., 250V.
19	0017-00003-0005	FUSE — 2A., 250V.
	0017-00003-0444	QUICK CONN. FUSEHOLDER (2 REQ'D.) — FOR ABOVE FUSES
20	0945-00816-1902	CAPACITOR — 100,000 M.F.
21	0945-00816-1901	CAPACITOR — 55,000 M.F.
	0017-00104-0107	#10 FLAT WASHER (4 REQ'D.)
	0017-00103-0081	#10-32 HEX NUT W/SEMS (4 REQ'D.)
22	0017-00009-0422	CLAMP (2 REQ'D.)
	0017-00101-0758	#8-32 x 3/4 PHIL. RND. HD. SCREW (2 REQ'D.)
	0017-00103-0061	#8-32 HEX NUT W/SEMS (2 REQ'D.)
23	0017-00101-0067	#6 x 3/8 PHIL. PAN HD. SCR. (6 REQ'D.)
24	0945-00904-0000	5 POSITION FUSE HOLDER
	0017-00003-0263	SLO-BLO FUSE — 4A., 250V.
	0017-00003-0217	SLO-BLO FUSE — 2.5A., 250V. (2 REQ'D.)
	0017-00003-0007	SLO-BLO FUSE — 3A., 250V. (2 REQ'D.)
	0945-00903-0000	FUSE HOLDER BARRIER
	A945-00022-0000	HEATSINK & DIODE ASSY.
	0017-00101-0067	#6 x 3/8 PHIL. PAN HD. SCR. (2 REQ'D.)
25	0017-00101-0780	#6 x 1/2 PHIL. PAN HD. SCREW (2 REQ'D.)
	0017-00021-0629	5 POSITION TERMINAL STRIP — (UNDER CHASSIS)
	A945-00019-0000	LINE CORD ASSY. — 115V. (NOT SHOWN)
26	A945-00030-0500	CONNECTOR & CABLE ASSY.
27	0017-00101-0660	#10-32 x 3/4 PAN HD. SCREW
	0017-00104-0107	#10 FLAT WASHER
	0017-00103-0081	#10-32 HEX NUT W/SEMS

FRONT DOOR ASSEMBLY — U.S.A. 25¢

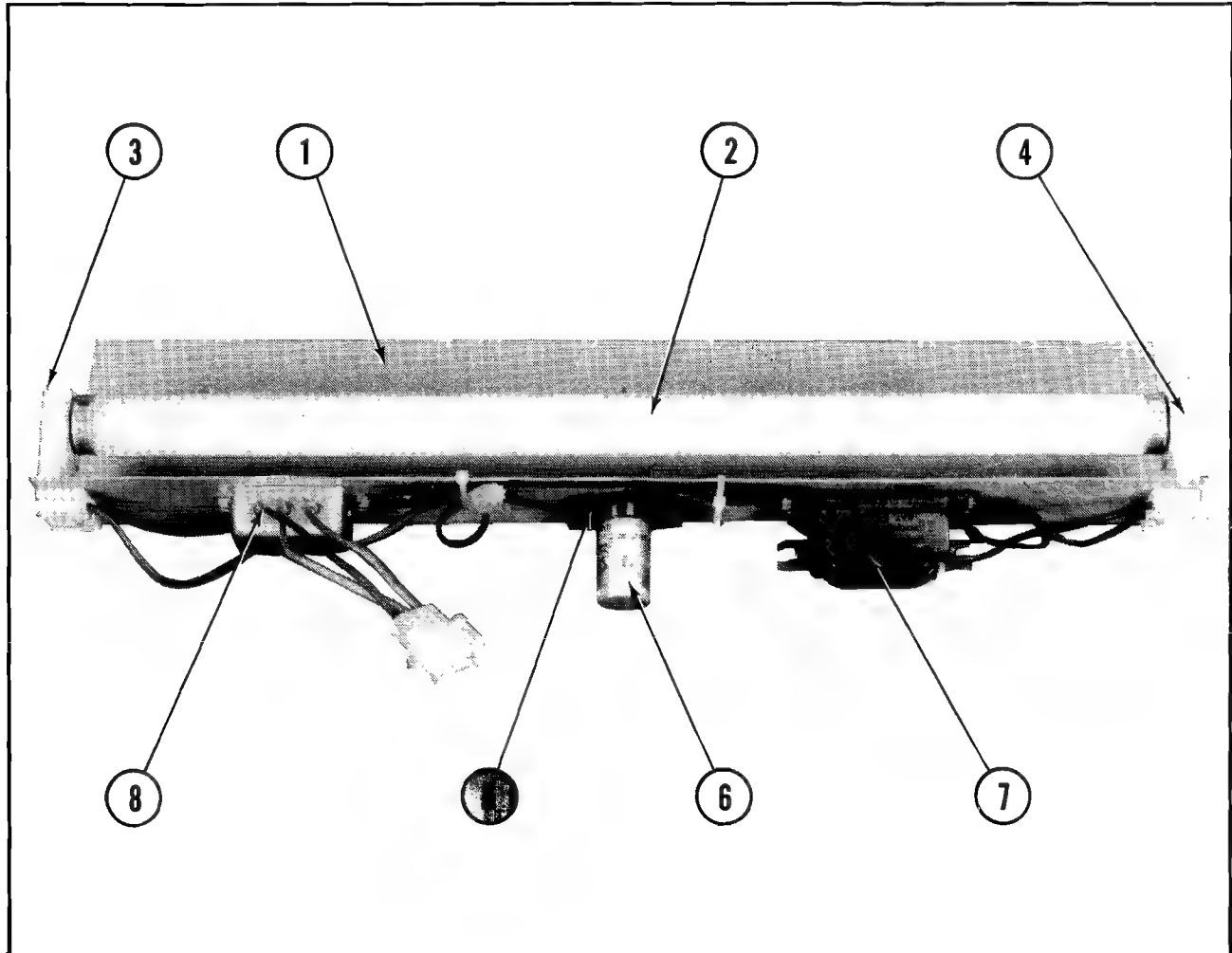


FRONT DOOR ASSEMBLY — U.S.A. 25¢ — PARTS LIST

ORDER BY PART NUMBER ONLY

ITEM	PART NO.	DESCRIPTION
1	0090-00002-04BK	DOUBLE ENTRY COIN DOOR FRAME
2	0017-00101-0121	#6-32 x 5/16 PHIL. TRS. HD. SCR. (3 REQ'D.)
3	A090-00073-02BK	DOUBLE ENTRY COIN DOOR W/DRESS PLATE
4	0017-00101-0123	#8 x 1/4 UNSLOT. HEX HD. SCREW (12 REQ'D.)
5	0017-00007-0019	KEY HOOK
6	0017-00103-0059	PUSH NUT (4 REQ'D.)
7	0090-00912-0000	COIN ENTRY PLATE — 25¢ (2 REQ'D.)
8	A097-00005-0000	DOOR LOCK & KEY W/SCREW & NUT (OR)
8	A097-00006-0000	DOOR LOCK & KEY W/SCREW & NUT
9	0090-00128-00XF	DOOR TILT SWITCH BRKT.
10	0017-00005-0041	DOOR CAM
11	A090-00095-0000	DOOR TILT SWITCH
12	0090-00126-03XF	SWITCH BACK-UP PLATE
13	0017-00101-0525	#5-40 x 9/16" PHIL. HD. M.S. (2 REQ'D.)
	A090-00096-0000	DOOR TILT SWITCH & BRKT. ASSY. (ITEMS 9 & 11 THRU 13)
14	0090-00903-9500	25¢ WINDOW (2 REQ'D.)
15	0090-00143-00XF	COIN PLEX RETAINER
16	0017-00003-0219	12 VOLT LAMP — G.E. #194 (2 REQ'D.)
17	0017-00031-0048	WEDGE SOCKET W/BRKT. (2 REQ'D.)
18	A090-00100-0000	BRKT. ASSY.
19	0017-00103-0084	#6-32 HEX NUT W/SEMS (4 REQ'D.)
20	A090-00089-0000	COIN METER W/DIODE
21	0017-00101-0124	#6 x 1/4 UNSLOT. HEX HD. SCR. (4 REQ'D.)
25	0090-00911-0000	INSULATOR (2 REQ'D.)
26	A090-00112-0000	COIN CHUTE & INSULATOR ASSY. (2 REQ'D.)
27	0010-00134-0000	SPRING
28	0010-00181-0000	SPRING
29	0017-00007-0083	1/8 x 1-5/8 ROLL PIN
30	0090-00129-00XF	PIVOT POST
31	0090-00167-00XF	PIVOT LEVER
32	0090-00182-00XF	REJECT LEVER
33	0017-00100-0018	E-RING
	A090-00088-0000	REJECT LEVER ASSY. (2 REQ'D.) (ITEMS 30 THRU 33)
34	A090-00105-0000	COIN ACCEPTOR FRAME ASSY. (2 REQ'D.)
35	0017-00005-0003	COIN ACCEPTOR W/STRING CUTTER (2 REQ'D.) (OR)
35	0017-00005-0211	COIN ACCEPTOR W/ANTI STRING DEVICE (2 REQ'D.) (OR)
35	0017-00005-0214	COIN ACCEPTOR W/STRING CUTTER (2 REQ'D.)
36	A090-00064-0000	ANTI-PENNY DEVICE
37	0017-00101-0099	#6 x 1/4 SLT. HEX HD. M.S. (2 REQ'D.)
38	0090-00162-00XF	COIN SWITCH MTG. BRKT.
39	0017-00005-0203	COIN SWITCH CHUTE
40	0017-00005-0195	COIN SWITCH
41	0010-00599-0000	COIN SWITCH WIRE
42	0017-00007-0015	PUSH-ON RING
	A090-00059-0400	COIN SWITCH & WIRE ASSY. (ITEMS 40 THRU 42)
43	0017-00101-0147	#4-40 x 3/4 PHIL. PAN. HD. M.S. (2 REQ'D.)
	A090-00077-0000	COIN GUIDE & SWITCH ASSY. (ITEMS 38 THRU 43)

NO. 337 — WACKO — UPRIGHT — HEADER FLUORESCENT LIGHT ASSY.

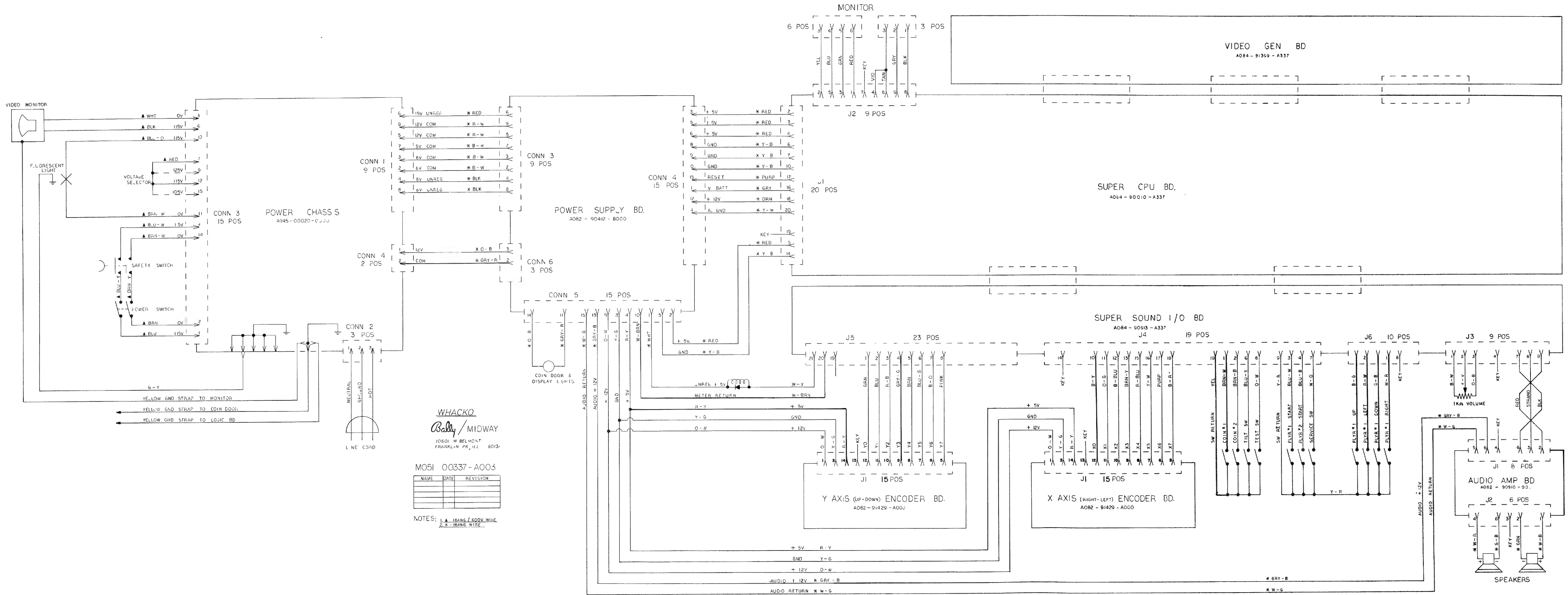


NO. 337 — WACKO — UPRIGHT — HEADER FLUORESCENT LIGHT ASSY. — PARTS LIST

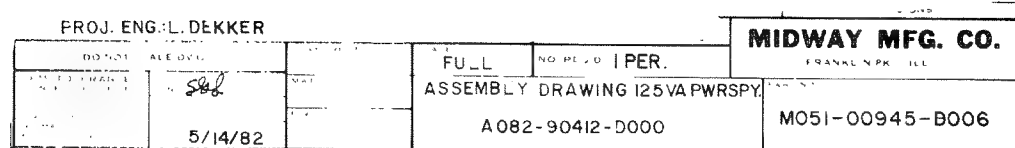
*ORDER BY PART NUMBER **ONLY***

ITEM	PART NO.	DESCRIPTION
1	0595-00105-0000	FLUORESCENT BRKT.
2	0017-00003-0043	18" COOL WHITE FLUORESCENT LAMP
3	0017-00003-0445	LAMP LOCKS (2 REQ'D.)
4	0017-00031-0036	FLUORESCENT SOCKET (2 REQ'D.)
5	0017-00003-0412	FLUORESCENT STARTER HOLDER W/LEADS
	0017-00101-0573	#6-32 x 1/2 PHIL. RND. HD. M.S. (4 REQ'D.)
	0017-00104-0009	#6 EXT. WASHER (4 REQ'D.)
6	0017-00003-0019	FLUORESCENT STARTER
7	0017-00003-0026	BALLAST
	0017-00101-0598	#8-32 x 5/16 SLT. HEX HD. SCR. (4 REQ'D.)
8	A961-00042-0000	LINE FILTER ASSY.

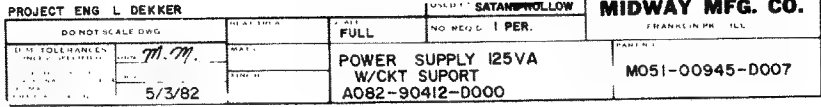
III. Wiring Diagrams and Schematics



DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
C101	4.00uf AX ELECT	R117	560ohm 1/4W 5%
C102	470uf AX ELECT	R118	150ohm 2W
C103	1uf AX CER	R201	270ohm 1/4W 5%
C104	1uf AX CER	R202	1.2K 1/4W 5%
C105	47pf AX CER	R203	1.1M 1/4W 5%
C106	470uf AX ELECT	R204	3.3M 1/4W 5%
C107	100uf RD TANT	R205	10M 1/4W 5%
C108	1uf RD TANT	R206	100K 1/4W 5%
C109	4.7uf RD TANT	R207	33K 1/4W 5%
C110	1uf AX CER	R208	2M 1/4W 5%
C111	1uf AX CER	R209	1M 1/4W 5%
C201	0.01uf MYLAR	R210	1.2M 1/4W 5%
C202	.033uf MYLAR	R211	75K 1/4W 5%
C203	.01uf MYLAR	R212	75K 1/4W 5%
C204	.047uf MYLAR	R213	220K 1/4W 5%
C205	820pf AX CER	R214	3.9K 1/4W 5%
C206	0.1uf AX CER	R215	1.2K 1/4W 5%
C207	0.082uf MYLAR	R216	82ohm 1W 10%
		R217	270ohm 1/4W 5%
		R218	110K 1/4W 5%
		R219	68ohm 1/2W 5%
		VR101,102	100ohm POT
CP1	1uf AX CER		
R101	18ohm 5W W/RES SPACER	D101	A15F
R102	68ohm 1/2W 5%	D102	A15F
R104	10ohm 5W W/RES SPACER	D103	A15F
R105	27ohm 1/4W 5%	D104	A15F
R106	270ohm 1/4W 5%	D105	A15F
R107	6.2K 1/4W 5%	D106	1N4001
		D201	1N4148
		D202	1N4148
		D203	1N4148
		D204	1N4001
		D205	1N4001
R109	1K 1/4W 5%		
R110	16ohm 15W W/RES SPACER		
R111	6.8ohm 1/2W 5%	Q102	2N2905
R112	68ohm 1/2W 5%	Q105	2N2905
R113	1.2K 1/4W 5%	Q201	2N4401
R114	47ohm 1/4W 5%		
R115	160ohm 1/4W 5%	U1	LM705 REG
		U2	LM305 REG
		J3	LM3900
		U4	1N78
		U6	555
		L101	22uH INDUCTOR
		B101	BATTERY 3.6VDC 60DEG C
		F1	2 RA 5 BLO FLSC
		FC1A,1B	FUSE CLIP
		FE1,2	FERRITE BEAD
		TW1	TIE WRAP
		J3	9PIN P.C. MOUNT CONN (MALE)
		.4	15PIN P.C. MOUNT CONN (FEMALE)
		.5	15PIN P.C. MOUNT CONN (MALE)
		.6	9PIN P.C. MOUNT CONN (MALE)
		LB1	FUSE TAG
		LB2	SYSTEM TAG
		HSA1	HEAT SINK ASS'Y 1
		M1 HSA1	MOUNTING HARDWARE (HEAT SINK)
			2 SCREW
			4 WASHER
			2 HEXNUT
		JW1,5	JUMPER WIRE
		FBMH1,2	FERRITE BEAD MOUNTING HARDWARE

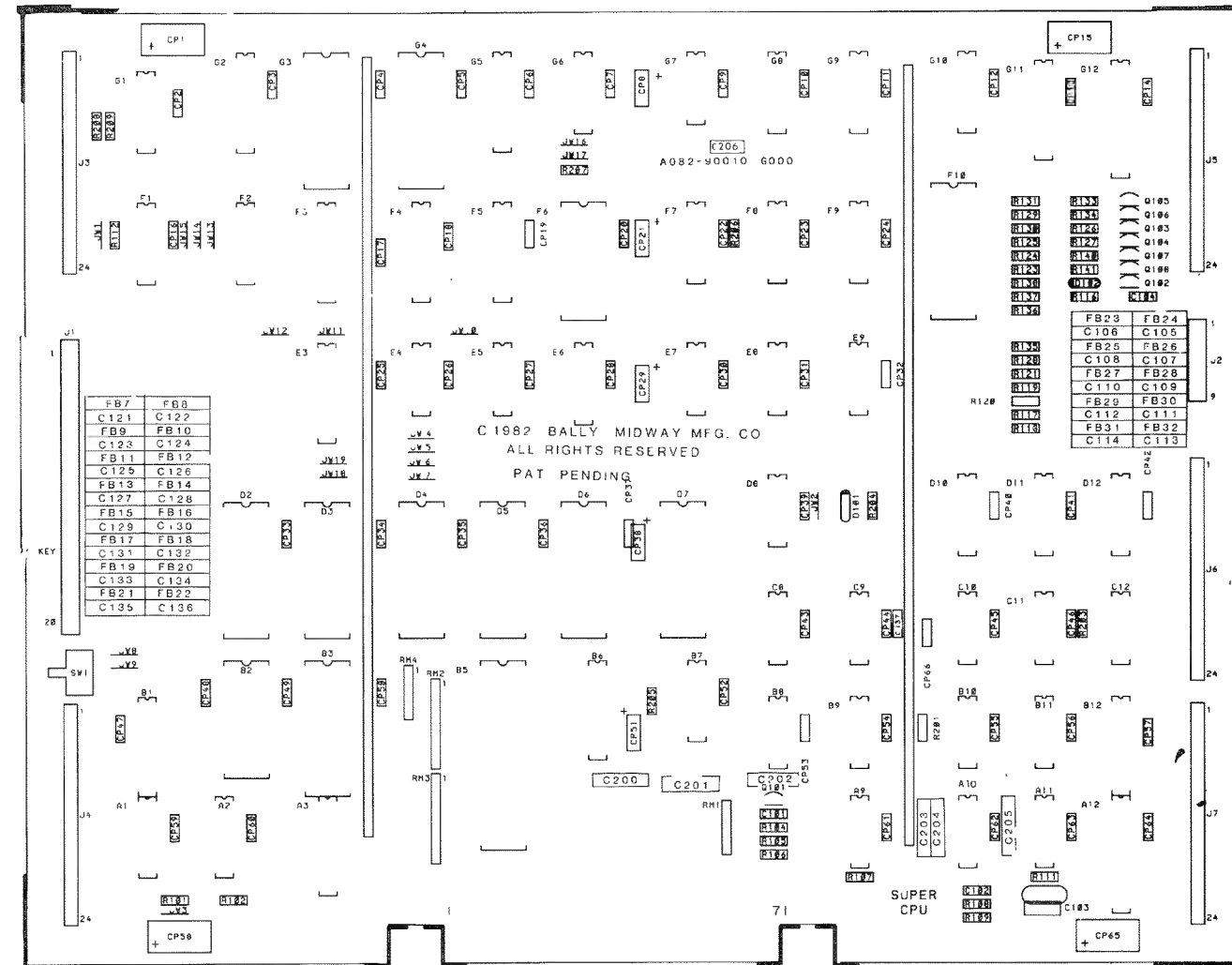


DESCRIPTION	Q'ty	DESIGNATION *	PART *
47pf AX CER	1	C105	0945 00811-0100
820pf AX CER	1	C205	0945-00816 0400
01uf AX CER	2	C206,208	0945 00616 -0100
01uf MYLAR	1	C201,203	0945-00516 0200
033uf MYLAR	1	C202	0945 00816-0500
047uf MYLAR	1	C204	0945-00816-0300
0.082uf AX CER	1	C207	0945 00816-1900
1uf AX CER	5	C103,104,110,111, CP1	0945 00811 0200
1uf RAD TANT	1	C108	0945 00811 0300
4.7uf RAD TANT	1	C109	0945 00811 0400
100uf RAD TANT	1	C107	0945 00811 0500
470uf AX ELECT	2	C102,106	0945-00816-0600
470uf AX ELECT	1	C101	0945 00811-0700
16ohm 15W 5%	1	R110	0945-00815-0100
18ohm 5W 5%	1	R101	0945 00815-0200
6.8ohm 1/2W 5%	1	R111	0062-04703-1XXX
10ohm 5W 5%	1	R104	0945-00812-0100
27ohm 1/4W 5%	1	R105	0062-06883-1XXX
47ohm 1/4W 5%	1	R114	0062 08683 1XXX
68ohm 1/2W 5%	3	R102,112,219	0062-09803 1XXX
82ohm 1W 10%	1	R216	0062 104F5 1XXX
150ohm 2W 5%	1	R118	0945-00812-0200
160ohm 1/4W 5%	1	R115	0062-12483 1XXX
270ohm 1/4W 5%	3	R106,201,217	0062 138B3 1XXX
560ohm 1/4W 5%	1	R117	0062 162B3 1XXX
1K 1/4W 5%	1	R109	0062 179B3 1XXX
1.2K 1/4W 5%	3	R113,202,215	0062 183B3 1XXX
3.9K 1/4W 5%	1	R214	0062 207B3 1XXX
6.2K 1/4W 5%	1	R107	0062 217B3 1XXX
33K 1/4W 5%	1	R207	0062-251B3-1XXX
75K 1/4W 5%	2	R211,212	0062 269B3 1XXX
100K 1/4W 5%	1	R206	0062-275B3 1XXX
110K 1/4W 5%	1	R218	0062-277B3-1XXX
220K 1/4W 5%	1	R213	0062 291B3 1XXX
1M 1/4W 5%	1	R209	0062 327B3 1XXX
1.1M 1/4W 5%	1	R203	0062 315B3 1XXX
1.2M 1/4W 5%	1	R210	0062 327B3 1XXX
2M 1/4W 5%	1	R208	0062 337B3 1XXX
3.3M 1/4W 5%	1	R204	0062 347B3 1XXX
10M 1/4W 5%	1	R205	0062 371B3 1XXX
100ohm POT	2	VR101,102	0945 00814-0000
LM305 REG	2	U1,2	0945-00813-0100
555	1	U6	0029-00810-4500
LM3900	1	U3	0945-00813-0200
4N28	1	U4	0945-00813-0300
A15F RECTIFIER	5	D101-105	0945-00804-0200
IN4001	3	D106,204,205	0945-00804-0300
IN4148	3	D201-203	0945-00804-0500
2N2905	2	Q102 105	0945 00808-0300
2N4401	1	Q201	0945-00804-0400
BATTERY 3.6VDC 60DEG C	1	B101	0017-00003-0377
FUSE 3/8A S BLO	1	F1	0945-00808-0400
FUSE CLIP	2	FC1A,1B	0017-00003-0214
TIE WRAP	1	TW1	0945-00814-0300
FERRITE BEAD	2	FB1,2	0017-00009-0225
FERRITE MOUNTING HDW	2	FBMH1,2	0017-00033-0139
22uH INDUCTOR	1	L101	0945-00814 0200
FUSE TAG	1		M051-00945-A004
SYSTEM TAG	1		M051-00945-A009
P.C.B.	1		A080-90412-U000
HEAT SINK ASS'Y	1	HSA1	A945-00008-0000
{ SEE HSA ASS'Y DRAWING "XX NOTE" }			
XX { 4-40 X10 SLT RND	2	MH HSA1A, 2A,	0017-00101-00727
4-40 HEX NUT	2	MH HSA1E, 2E,	0017 00103-0002
WSH 4-120-.250-01B	4	MH HSA1B,1D	0017-00104-0071
		MH HSA2B,2D	
3PIN P.C. MOUNT CONN (MALE)	1	J6	0017 00021 0443
9PIN P.C. MOUNT CONN (MALE)	1	J3	0017-00021 0425
15PIN P.C. MOUNT CONN (FEMALE)	1	J4	0017 00021 -0441
15PIN P.C. MOUNT CONN (MALE)	1	J5	0017-00021-0440
22AWG T&R BARE 2.5"	5	JW1-5	0151-00087-0000



DESIGNATION LIST

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
C101	33PF AX. CER.	R201	1K OHM "	F1	4053
C102	0.1UF AX. CER.			F2	4017
C103	0.1UF MYLAR	R203-R207	1K OHM "	F3	74LS245
C104	390PF AX. CER.	R208,R209	4.7KOHM "	F4,F5	74LS273
C105-C110	47 PF AX. CER.	RM1	4.7K 6 PIN S.I.P.	F6	6116
C111-C114	820 PF AX. CER.	RM2,RM3	4.7K 10 PIN S.I.P.	F7	74LS174
C121-C137	390 PF AX. CER.	RM4	4.7K 6 PIN S.I.P.	F8,F9	74LS157
C200	820 PF AX. CER.			F10	93419
C201,C202	390 PF AX. CER.	D101	1N5817		
C203	100 PF AX. CER.	D102	4148	G1	74LS153
C204	470 PF AX. CER.			G2	74LS273
C206	100 PF AX. CER.			G3	EPROM
CP1	470UF 16V ELECT. AX.	Q101	2N4403	G4	74LS273
CP2-CP7	0.01UF 50V AX. CER.	Q102	2N4123	G5	74LS153
CP8	10UF 25V AX. TANT.	Q103-Q108	MPSA70	G6	74LS86
CP9-CP14	0.01UF 50V AX. CER.	A1	74LS161	G7	74LS174
CP15	470UF 16V ELECT. AX.	A2	74LS367	G8	74LS157
CP16-CP20	0.01UF 50V AX. CER.	A3	74LS245	G9,G10	CUSTOM IC
CP21	10UF	A4	7474	G12	V-T GEN.
CP22-CP28	0.01UF	A10	74S74		
CP29	10UF	A11	74S04		
CP30-CP37	0.01UF	A12	H-T		
CP38	10UF				
CP39-CP50	0.01UF	B1	74LS244		
CP51	10UF	B2	CMOS RAM		
CP52-CP57	0.01UF	B3	MK3882		
CP58	470UF 16V ELECT. AX.	B5	74LS244		
CP59-CP64	0.01UF	B6	74LS133		
CP65	470UF	B7	74LS32		
CP66	0.1UF 50V AX. CER.	B8	74S04		
		B9	74LS74		
		B10	74LS32		
		B11	74LS32		
		B12	V&H-T		
R101	4.7K OHM 1/4W CRBN.				
R102	1K OHM "				
R104	1.2K OHM "				
R105	220 OHM "				
R106	22 OHM "				
R107	1K OHM "				
R108	330 OHM "				
R109	1K OHM "				
R111	330 OHM "				
R112	1K OHM "				
R116	560 OHM "				
R117,R118	100 OHM "				
R119	820 OHM "				
R120	470 OHM "				
R121	510 OHM "				
R123	1K OHM "				
R124	2K OHM "				
R125	10 OHM "				
R126,R127	470 OHM "				
R128	1K OHM "				
R129	510 OHM "				
R130	2K OHM "				
R131	10 OHM "				
R133,R134	470 OHM "				
R135	510 OHM "				
R136	1K OHM "				
R137	2K OHM "				
R138	10 OHM "				
R140,R141					



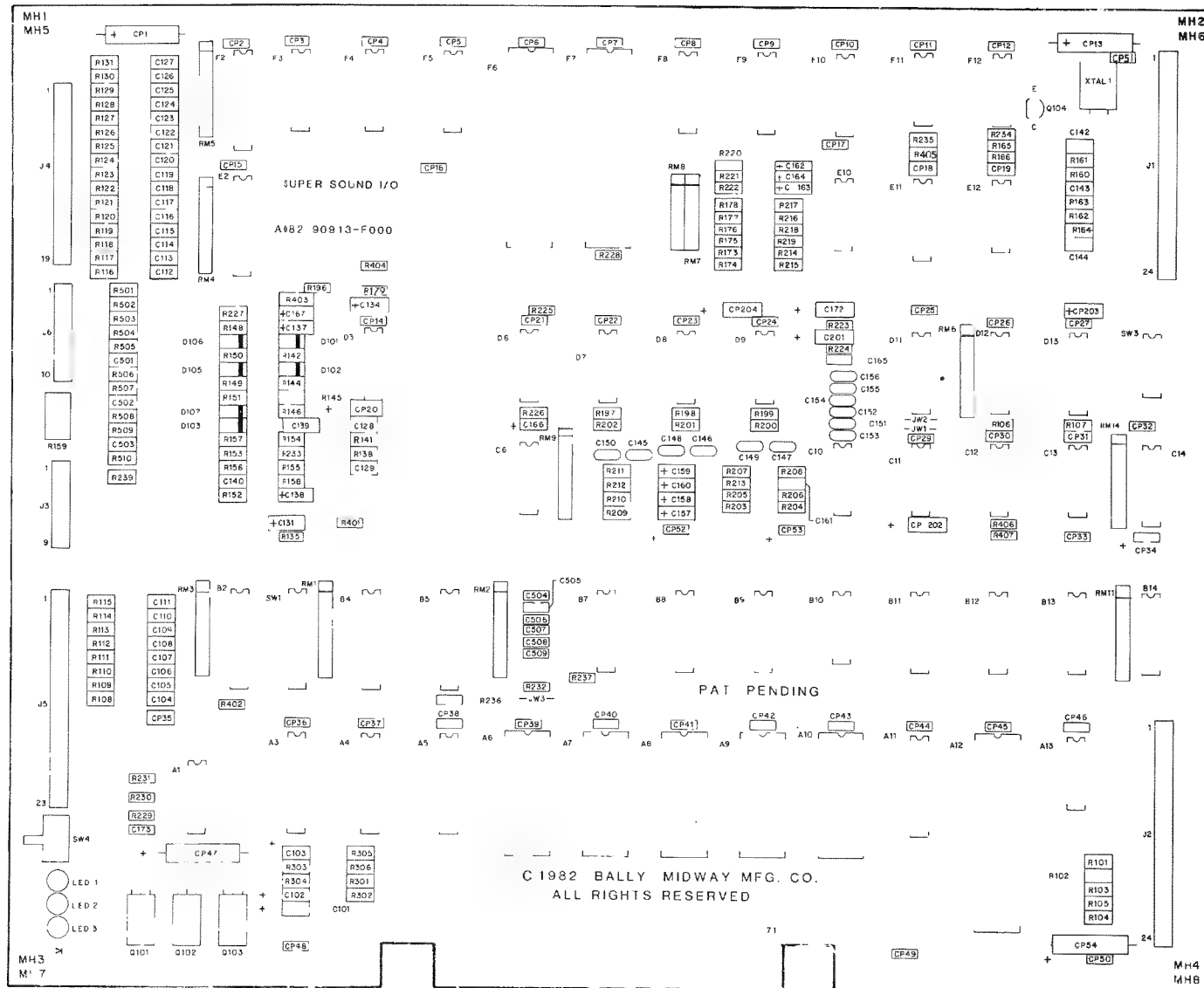
CROSS REFERENCE LIST

DESCRIPTION	QTY	DESIGNATION	PART NOS	DESCRIPTION	QTY	DESIGNATION	PART NOS
33 PF AX CER	1	C101	0986-00800-0300	74LS161	1	A1	0986-00803-1003
47 PF AX CLR	6	C105-C110	0986-00800-2800	74LS174	2	F7,G8	0986-00803-9800
100 PF AX CER	2	C203,C206	0986-00800-000	74LS244	2	B1,B6	0986-00803-0800
390 PF AX CER	20	C104,C121-C137,C201,C202	0986-00800-3000	74LS245	2	A3,F3	0986-00803-0900
470 PF AX CER	1	C204	0986 00800 3502	74LS273	4	F4,F5,G2,G5	0986-00803-1000
820 PF AX CER	5	C111-C114,C200	0986-00800-350	74LS367	1	A2	0986-00803-2200
0.01UF 50V AX. CER.	56	CP2-CP7,CP9-CP14,CP15-CP20,CP22-CP28,CP30-CP37,CP38-CP50,CP52-CP57,CP59-CP64	0986-00800-2200	MK3380	1	B5	0986-00803-7800
				MK3382	1	B3	0986-00803-7700
				4017	1	F2	0986-00803-8700
				4053	1	F1	0986-00803-2000
0.1MF 100V MYLAR	1	C103	0986-00800-0100	CMOS RAM	1	B2	0986-00803-8100
0.1MF 50V AX. CER.	2	C102,CP66	0986-00800-0200	93419	1	F6	0986-00803-1008
10MF 25VAX. TANT	5	CP8,CP21,CP29,CP38,CP51	0986-00800-3400	6116	1	F10	0986-00803-9600
				V-T GEN.	1	A12	0986-00803-8900
470UF 16V AX. ELECT	4	CP1,CP15,CP58,CP65	0986-00800-3300	V&H GEN.	1	G12	0986-00803-9000
				MISC. CUSTOM	1	B12	0986-00803-9100
10 OHM 1/4W CRBN.	6	R126,R127,R133,R134,R140,R141	0062-051B3-1XXX	NVR CONTROLLER	1	G11	0986-00803-9200
22 OHM "	1	R106	0062-063B3-1XXX	EPROM	1	E3	0986-00804-3200
100 OHM "	1	R119	0062-110B3-1XXX	EPROM	1	D2	
220 OHM "	1	R105	0062-133B3-1XXX	EPROM	1	D3	
330 OHM "	2	R108,R111	0062-144B3-1XXX	EPROM	1	D4	
470 OHM "	3	R121,R128,R135	0062-156B3-1XXX	EPROM	1	D5	ROM/EPROM OPTIONS KIT
510 OHM "	3	R123,R130,R136	0062-159B3-1XXX	EPROM	1	D6	
560 OHM "	2	R117,R118	0062-162B3-1XXX	EPROM	1	D7	
820 OHM "	1	R120	0062-174B3-1XXX	EPROM	1	G3	
1K OHM "	13	R102,R107,R109,R116,R124,R129,R137,R201,R203-R207	0062-179B3-1XXX	8 PIN IC SOCKET	2	G4	
				16 PIN "	2		ICSA12,ICSG12
1.2K OHM "	1	R104	0062-183B3-1XXX	20 PIN "	3		ICSA12A,ICSG12A
2K OHM "	3	R125,R131,R138	0062-193B3-1XXX	ICSG12	2		ICSG12A,ICSG12B
4.7K OHM "	4	R101,R12,R208,R209	0062-211B3-1XXX	24 PIN "	2		ICSG12C,ICSG12D
				28 PIN "	10		ICSG12E,ICSG12F
4.7K 6PIN S.I.P.	2	RM1, RM4	0986-00804-2400				ICSG12G,ICSG12H
4.7K 10PIN S.I.P.	2	RM2, RM3	0986-00804-4600				ICSG12I,ICSG12J
							ICSG12K,ICSG12L
1N5817	1	D101	0986-00801-0300	40PIN "	1		ICSG12M,ICSG12N
4148	1	D102	0986-00801-0100	FERRITE BEADS	26		ICSG12O,ICSG12P
				KK100 RT. ANGLE 2 PIN CONN.	1	J2A	0986-00804-4200
2N4403	1	Q101	0986-00802-0200	KK100 RT. ANGLE 6 PIN CONN.	1	J2	0986-00804-4300
2N4123	1	Q102	0986-00802-0100	KK156 RT. ANGLE 5 PIN CONN.	1	J1A	0986-00804-4400
MPSA70	6	Q103-Q108	0986-00802-0300	KK156 RT. ANGLE 14 PIN CONN.	1	J1	0986-00804-4500
				KK100 RT. ANGLE 24 PIN CONN.	5	J3,J4,J5,J6,J7	0986-00804-4700
74LS04	3	A11,B9,C10	0986-00803-0400	ZERO OHM RESISTORS	19	JW1-JW19	0986-00804-4000
74LS04	2	D8,E9	0986-00803-1007				
74LS08	1	C8	0986-00803-1006				
74LS20	2	C11,C12	0986-00803-1004	SWITCH P.C. MOUNTING	1	SW1	0986-00804-3100
74LS27	1	E8	0986-00803-9500				
74LS32	4	B8,B1,E4,E5	0986-00803-0600	19.968MHZ CRYSTAL	1	XTAL	0986-00804-4900
7474	1	A9	0986-00803-0009				
74S74	1	A10	0986-00803-1500	BUS BAR	2	B81,B82	0986-00804-4100
74LS74	2	B10,C9	0986-00803-1005				
74LS86	2	E7,G7	0986-00803-9900	FLEX-PAC	5	J3,J4,J5,J6,J7	0986-00804-4800
74LS133	1	A7	0986-00803-1002				
74LS138	1	E6	0986-00803-1900				
74LS153	2	G,G6	0986-00803-1000				
74LS157	7	D10,D11,D12,F8,F9,G9,G10	0986-00803-9700				

PROJECT ENG. A. GOSH		USED ON WACKO		REVISIONS	
DATE 02/14/83		FULL NO REQD 1 PER		Bally / MIDWAY MFG. CO.	
SUPER CPU BOARD ASSY DWG.		A082-90010-0000		PART NO M051-00337 - A005	

DESIGNATION LIST

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
C101-C103	10MF 25V AX.TANT.	RM1	4.7K OHM 10 PIN S.I.P.
C104-C127	1MF 50V AX.CER.	RM2-RM5	2.7K " 10 PIN S.I.P.
C128-C129	47PF 50V AX.CER.	RM7	4.7K " 8 PIN S.I.P.
C131	10MF 25V AX.TANT.	RM8	820 " 8 PIN S.I.P.
C134	1MF 20V AX.TANT.	RM9	1.8K " 10 PIN S.I.P.
C137	1MF " " "	RM14	4.7K " 10 PIN S.I.P.
C138	10MF 25V AX.TANT.		
C139	.047MF 100V MYLAR		
C140	.01MF 50V AX.CER.	D101-D103	1N4148
C142	100PF 50V AX.CER.	D105-D107	1N4148
C143	1MF 50V AX.CER.		
C144	33PF 50V AX.CER.	Q101-Q103	TIP110
C145-C156	.0022MF 100V 10% MYLAR	Q104	2N4403
C157-C159	1MF 20V AX.TANT.	ICA1	7406
C161	330PF 50V AX.CER.	" A4	74LS273
C162-C164	1MF 20V AX.TANT.	" A5	74LS374
C165	330PF 50V AX.CER.	" A6	1K X 8 RAM
C166,C167	10MF 25V AX.TANT.	" A7	ROM/EPROM 0
C172	10MF 25V AX.TANT.	" A8	" " 1
C173	.01MF 50V AX.CER.	" A9	" " 2
C501-C509	1MF 50V AX.CER.	" A10	" " 3
CP1	470MF 16V AX.ELECT.	" A11	74LS245
CP2-CP12	.01MF 50V AX.CER.	" A12	Z-80 CPU
CP13	470MF 16V AX.ELECT.	" A13	74LS08
CP14-CP19	.01MF 50V AX.CER.	" B2,B4,B5	74LS244
CP20	10MF 25V AX.TANT.	" B7,B8	74LS138
CP21-CP27	.01MF 50V AX.CER.	" B9	74LS670
CP29-CP33	.01MF 50V AX.CER.	" B10	74LS32
CP34	10MF 25V AX.TANT.	" B11	74LS670
CP35-CP46	.01MF 50V AX.CER.	" B12,B13	74LS138
CP47	470MF 16V AX.ELECT.	" B14	74LS174
CP48-CP51	10MF 50V AX.CER.	" C6	7407
CP52,CP53	10MF 25V AX.TANT.	" C10	MC3403
CP54	470MF 16V AX.ELECT.	" C11	74LS04
CP202-CP204	10MF 25V AX.TANT.	" C12	MC14024
R101-R107	4.7K OHM 1/4W 5% CARBON	IC C13	7427
R108-R131	220 " " " "	" C14	74LS367
R135	33K " " " "	" D3	LM3900
R138	180K " " " "	" D6	74LS02
" I41	180K " " " "	" D7-D9	MC14016
R142	100K " " " "	" D11	74190
R144, R145	620K " " " "	" D12	PROMSB2A
R146	10K " " " "	" D13	74166
R148	100K " " " "	" E2	74LS244
R149,R150	620K " " " "	" E10	MC3403
R151	10K " " " "	" E11	74161
R152	1MEG. " " " "	" E12	74126
R153	1K " " " "	" F2	74LS244
R154	1MEG " " " "	" F3-F5	74LS191
R155,R156	10K " " " "	" F6,F7	AY-3-8910
R157,R158	1.2K " " " "	" F8-F10	74LS191
R160,R161	330 " " " "	" F11	7474
R162	220 " " " "	" F12	74S04
R163	1.2K " " " "		
R164	22 " " " "		
R165,R166	4.7K " " " "		
R173-R178	5.6K " " " "	ICSA6-ICSA10	24PIN IC SOCKET
R179	24K " " " "	" A12	40PIN " "
R196	24K " " " "	" F6,F7	40PIN " "
R197-R202	5.6K OHM 1/4W 5% CARBON		
R203-R208	33K " " " "	J1,J2	24 PIN KK100 RT. ANGLE CONN.
R209-R211	13K " " " "	J3	9 PIN KK100 RT. ANGLE W/ 4 OMIT
R213	27K " " " "	J4	19 PIN KK100 RT. ANGLE W/14 OMIT
R214-R219	33K " " " "	J5	23 PIN KK100 RT. ANGLE W/19 OMIT
R220-R222	13K " " " "	J6	10 PIN KK100 RT. ANGLE W/8 OMIT
R224	27K " " " "		
R225,R226	4.7K " " " "		
R227	1K " " " "		
R228	4.7K " " " "		
R231	300 " " " "	JW1,JW2	JUMPER WIRE
R232	4.7K " " " "		
R233	3K " " " "	LED 3	YELLOW LED
R234,R235	4.7K " " " "		
R239	100 " " " "	SW1	10 POSITION DIP
R301-R306	2.7K " " " "	SW3	8 " " "
R401	1K " " " "	SW4	PUSH BUTTON SW.
R402	4.7K " " " "		
R403-R404	33K " " " "	XTAL 1	16 MHZ CRYSTAL
R405-R407	4.7K " " " "		
R501-R509	220 " " " "		
R510	2.7K " " " "	MHQ101-MHQ103	SNAP
		MH1-MH4	SPACER
		MH5-MH8	6-32 X 6 M.S.
		A080-90913-F000	SUPER SOUND I/O BOARD



DESCRIPTION

33PF 50V 5% AX.CER
47 PF 50V AX.CER
100PF 50V 5% AX.CER
330PF 50V AX.CER
.0022MF 100V 10% MYLAR
.047MF 100V MYLAR
.01MF 50V AX.CER

1MF 50V AX.CER.
MF 20V AX. TANT
10MF 25V AX. TANT.

470 MF 16V AX. E.L.E.C.T.

22 OHM 1/4W 5% CARBON
100 " " " "
220 " " " "
300 " " " "
330 " " " "
1K " " " "
1.2K " " " "
2.7K " " " "
3K " " " "
4.7K " " " "

5.6K " " " "
10K " " " "
13K " " " "
24K " " " "
27K " " " "
33K " " " "

100K " " " "
180K " " " "
620K " " " "
1MEG. " " " "

820 OHM 8PIN S.I.P.
1.8K " 10PIN S.I.P.
2.7K " 10PIN S.I.P.
4.7K " 8 PIN S.I.P.
4.7K " 10PIN S.I.P.

1N4148

2N4403

TIP 110

74LS02

74LS04

74S04

7406

7407

QTY

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2
12
1
47

34
8
15

4

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34
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6

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DESIGNATION

C144
C128,C129
C142
C161,C165
C145-C156
C139
CP2-CP12,CP14-CP19,
CP21-CP27,CP29-CP33,
CP35-CP46,CP48-CP51,
C140, C173
C104-C127,C143,C501-C509
C134,C137,C157-C159,C162-C164
CP34,CP52-CP53,CP202-CP204,CP20,
C101-C103,C131,C138,C166,C167,C172
CP1,CP13,CP47,CP54

R164
R239
R108-R131,R162,R501-R509
R231
R160-R161
R153,R227,R401
R157,R158,R163
R301-R306,R510
R233
R101-R107,R165,R166,R225,R226,
R228,R232,R234,R235,R402,
R405-R407
R173-R178, R197-R202
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R209-R211,R220 R222
R179,R196
R213,R224
R135,R203-R208,
R214-R219,R403-R404
R142,R148
R138,R141
R144,R145,R149,R150
R152,R154

R164
R239
R108-R131,R162,R501-R509
R231
R160-R161
R153,R227,R401
R157,R158,R163
R301-R306,R510
R233
R101-R107,R165,R166,R225,R226,
R228,R232,R234,R235,R402,
R405-R407
R173-R178, R197-R202
R146,R151,R155,R156
R209-R211,R220 R222
R179,R196
R213,R224
R135,R203-R208,
R214-R219,R403-R404
R142,R148
R138,R141
R144,R145,R149,R150
R152,R154

R164
R239
R108-R131,R162,R501-R509
R231
R160-R161
R153,R227,R401
R157,R158,R163
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R209-R211,R220 R222
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R213,R224
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R138,R141
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R152,R154

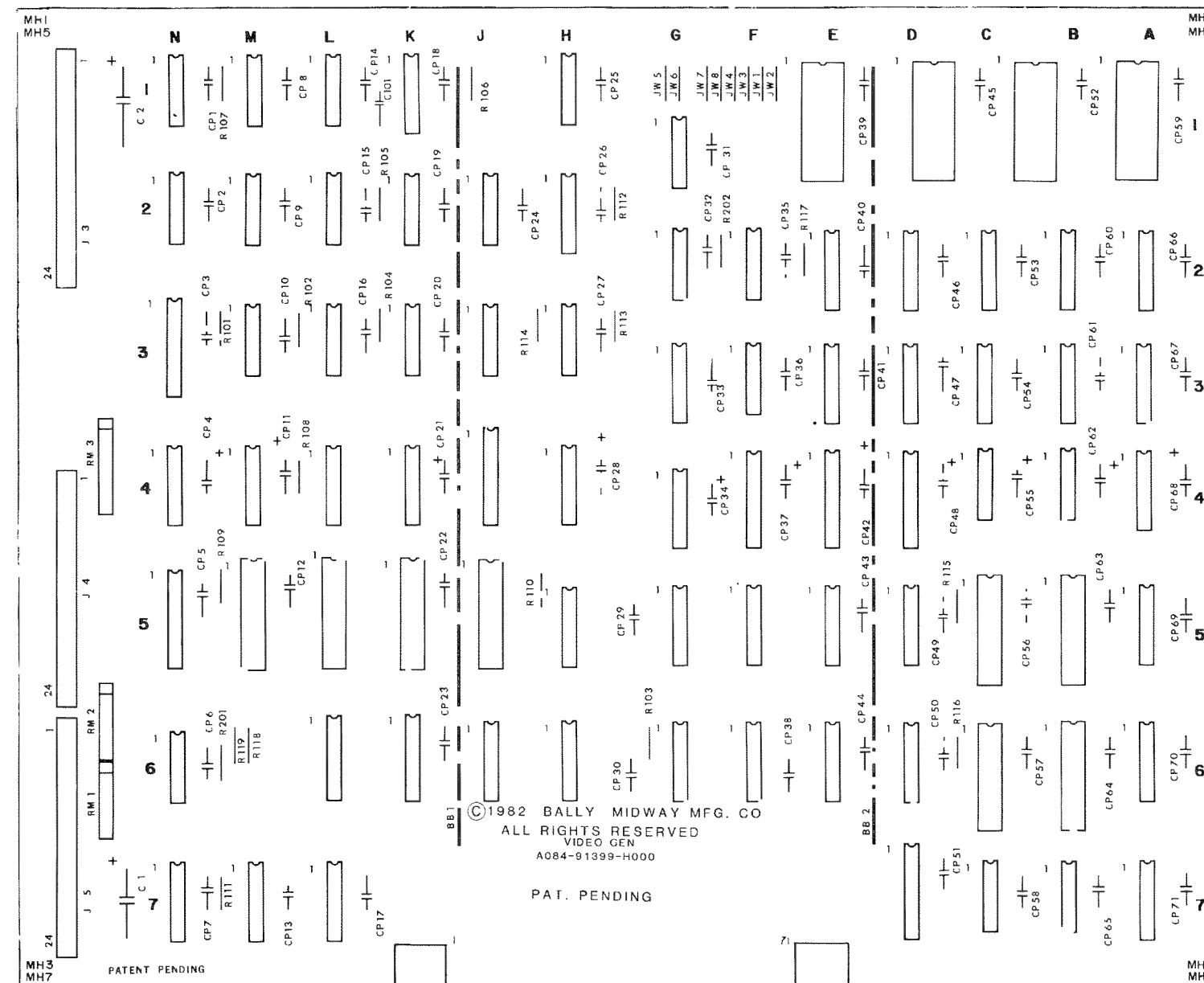
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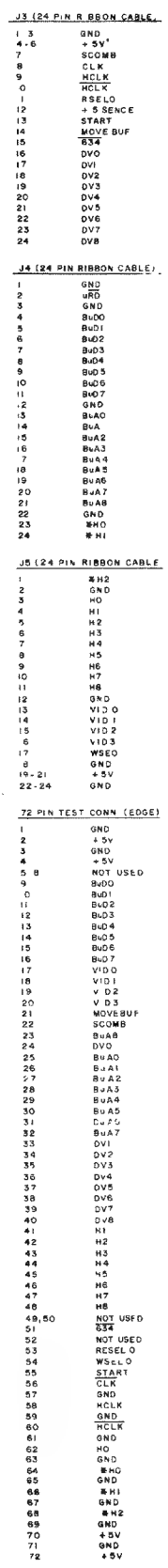
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R146,R151,R155,R156
R209-R211,R220 R222
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R144,R145,R149,R150
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R164
R239
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R231
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R233
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R405-R407
R173-R178, R197-R202
R146,R151,R155,R156
R209-R211,R220 R222
R179,R196
R213,R224
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R138,R141
R144,R145,R149,R15

CROSS REFERENCE LIST

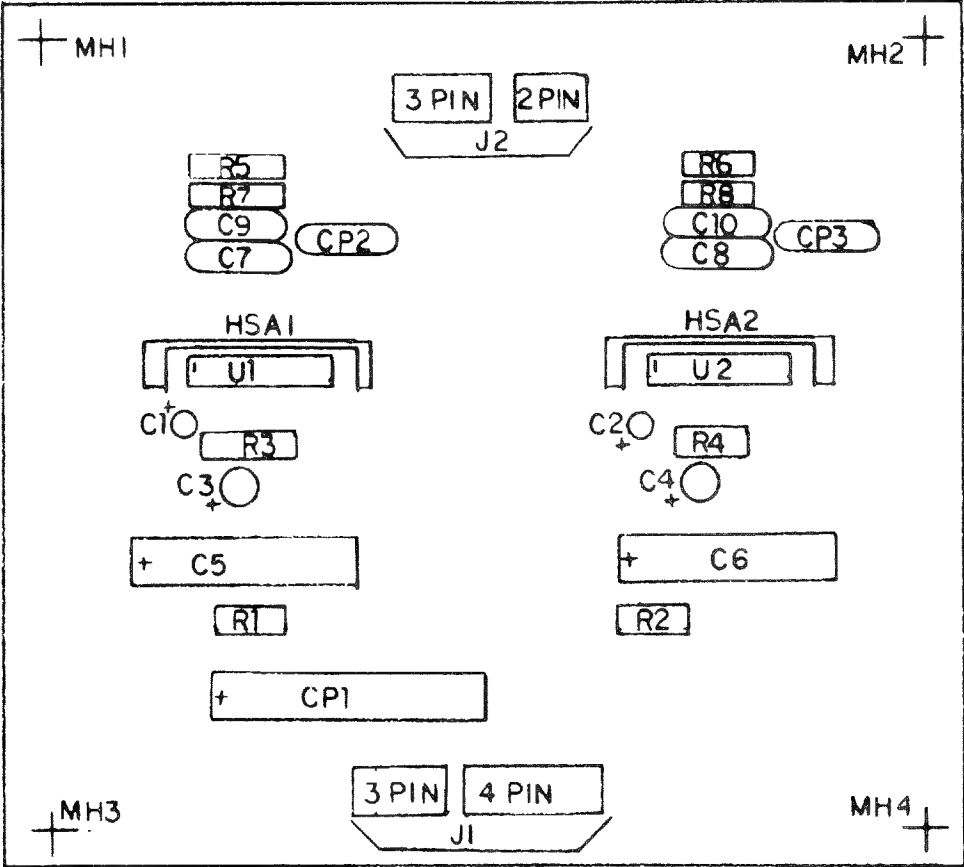
DESCRIPTION	Q'TY	PART NO.
100PF 50V AX. CER.	1	0986-00800-1000
01 μ f 50V AX. CER.	60	0986-00800-2500
10 μ f 25 V AX. TANT.	11	0986-00800-2400
100 μ f 25 V AX. ELECT.	2	0986-00800-1800
1 K 1/4 W CRBN. FLM.	21	0062-17983-1XXX
1 K 8 PIN SIP	2	0986-00804-1100
1 K 10 PIN SIP	1	0986-00804-1000
2114-2	2	0986-00803-2300
7400	1	0986-00803-2800
7404	1	0986-00803-8300
74S04	1	0986-00803-3100
7408	1	0986-00803-3200
74LS20	2	0986-00803-3400
7427	1	0986-00803-3500
7430	5	0986-00803-3600
7432	1	0986-00803-4400
74LS32	4	0986-00803-3700
7474	2	0986-00803-4500
74S74	2	0986-00803-4100
74LS86	2	0986-00803-4200
74LS157	18	0986-00803-2400
74161	3	0986-00803-2500
74174	2	0986-00803-2600
74175	1	0986-00803-2700
74LS194	8	0986-00803-2900
74LS245	1	0986-00803-3000
74LS273	4	0986-00803-3800
74LS283	5	0986-00803-3900
74LS374	2	0986-00803-4000
93422	4	0986-00804-0800
93422	4	0986 00803-1010
EPROM	1	} ROM/EPROM OPTIONS KIT G337-00803-0003
EPROM	1	
EPROM	1	
EPROM	1	
JUMPER WIRE	8	0986-00805-0200
BUSS BAR	2	0986-00804-0900
P.C. BOARD	1	A080-91399-E000
24 PIN RIGHT ANGLE CONN.	3	0986-00804-4700
28 PIN SOCKET	4	0986-00804-0300
22 PIN SOCKET	8	0986-00804-0700
18 PIN SOCKET	2	0986-00804-0600
PC BD SPACER	4	0986-00701-00XF
PC MTG SCREW	4	Q017-00101-0339
		DESIGNATION
		C101
		CP1-3, CP5-10,
		CP12-20, CP22-27,
		CP29-33, CP35, 36,
		CP38-41, CP43-47,
		CP49-54, CP56-61,
		CP63-67, CP69-71.
		CP4, 11, 21, 28, 34, 37,
		CP42, 48, 55, 62, 68.
		C1, 2.
		R101-119, 201, 202.
		RM1, 2.
		RM3
		K6, L6.
		F2
		N6
		F3
		L2
		G2, L1
		N2
		J2, J3, K2, M1, N1
		M2
		B4, 7, C4, 7,
		K3, L3
		H3, M3
		G1, H1
		A2, 3, 4, 5, 6, 7, D5, 6,
		E5, 6, F5, 6, G6, H6,
		J6, L7, M7, N7.
		K1, K4, M4.
		H2, 5
		H4
		B2, 3, C2, 3, D2, 3, E2, 3.
		N5
		D4, 7, J4, N3
		G3, 4, 5 L4, N4,
		E4, F4
		J5, K5, L5, M5
		B5, B6, C5, C6
		A1 { VG A }
		B1 { VG B }
		C1 { VG C }
		D1 { VG D }
		JW1-8
		BB1, 2
		J3, 4, 5
		ICSA1, B1, C1, D1
		ICS B5, 6, C5, 6, J5, K5, L5, M5
		ICS K6 L6
		PCMH1-PCMH4
		PCMH5-PCMH8





DESIGNATION LIST

DESIGNATION	DESCRIPTION
C1,C2	4.7mf 25v rd.tant.
C3,C4	22mf 6v " "
C5,C6	470mf 6v ax.elect
C7-C10	.1mf 50v ax.cr.
CP1	220mf 25v ax.elect.
CP2,CP3	.1mf 50v ax.cr.
R1,R2	2.7K Ω 1/4w 5% CRBN.
R3,R4	27 Ω " " " "
R5-R8	1 Ω 1/2w " " "
U1,U2	MB3730
J1	3 PIN STRT. KKI56
J2	4 " " " "
HSA1,2	HEATSINK ASSY.
MH1-MH4	HEYCO BUSHING



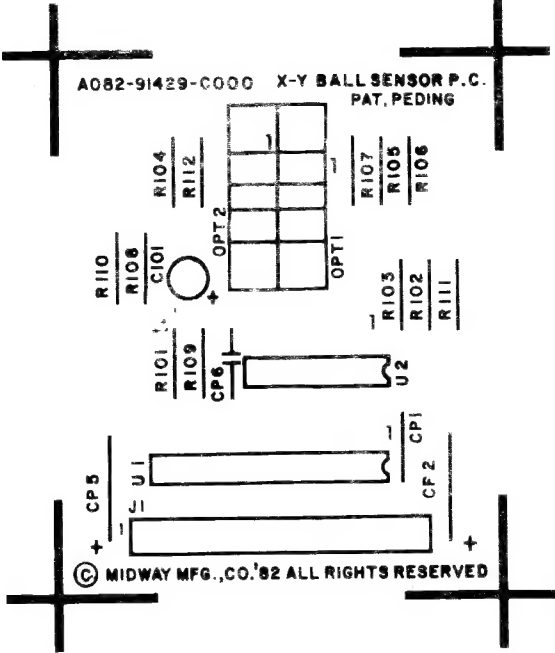
CROSS REFERENCE LIST

DESCRIPTION	QTY	DESIGNATION	PART NO
.1mf 50v ax.cr.	6	C7-C10, CP2,CP3	0986-00800-1100
4.7mf 25v rd.tant.	2	C1,C2	0986-00800-3100
22mf 6v " "	2	C3,C4	0986-00800-1600
220mf 25v ax.elec.	1	CP1	0986-00800-3200
470mf 6v " "	2	C5,C6	0986-00800-1700
1 Ω 1/2w 5%	4	R5-R8	0062-026D3-1XXX
27 Ω 1/4w	2	R3,R4	0062-068B3-1XXX
2.7K " "	2	R1,R2	0062-199B3-1XXX
MB3730	2	U1,U2	0066-188XX-XX4X
2 PIN STRT. KKI56	1	J2	3000-16367-0200
3 " " " "	2	J1,J2	3000-16367-0300
4 " " " "	1	J1	3000-16367-0400
HEATSINK ASSY.	2	HSA1, HSA2	A986-00010-E000
HEYCO BUSHING	4	MH1-MH4	0017-00042-0014
PC BOARD	1		A080-90910-E000

PROJECT ENG. C MEDNICK		THIS DWG IS CONFIDENTIAL & PROPERTY OF MIDWAY MFG CO			
DIM. TOLERANCES UNLESS OTHERWISE SPEC		FIRST USED ON TRON		MIDWAY MFG. CO. FRANKLIN PK., IL. 60131 A BALLY CO.	
CONCENTRICITY T I R .002		DATE 9-1-82		SCALE FULL	
FRACTIONAL \pm 1/64		MECH. CHK TJK		MAT.	
DECIMAL \pm .005		ELEC. CHK		FINISH	
HOLE DIA. \pm .002 .000		C. M. H.			
ANGLE \pm 1/2°					
DO NOT SCALE DWG				DUAL PWR. AMP. ASSY A080-90910-E000	
				REVISIONS	
				PART NO M051-00986-E010	

DESIGNATION LIST

DESIGNATION NO.	DESCRIPTION
C 101	4.7 µf TANT 16V RAD.
CP 1	.01 µf 50V AX. CER.
CP 2	10 µf 16V AX. ELECT.
CP 5	10 µf 16V AX. ELECT.
CP 6	.01 µf 50V AX. CER.
R 101	4.7 K 1/4 W 5%
R 102	4.7 K " "
R 103	200 K " "
R 104	200 K " "
R 105	6.2 K " "
R 106	120 ohm " "
R 107	30 K " "
R 108	91 K " "
R 109	200 K " "
R 110	200 K " "
R 111	4.7 K " "
R 112	6.2 K " "
OPT 1, OPT 2	OPTICAL SENSORS
U 1	74 LS491
U 2	LM 339
J 1	15 PIN KK-100 RT. ANGLE PIN 13 OMITTED
SCREW	5-40 X 6 SLT RND MS NY NT
PLATE	PLATE - NUT FIN.
A080-91429-C000	P.C. BOARD

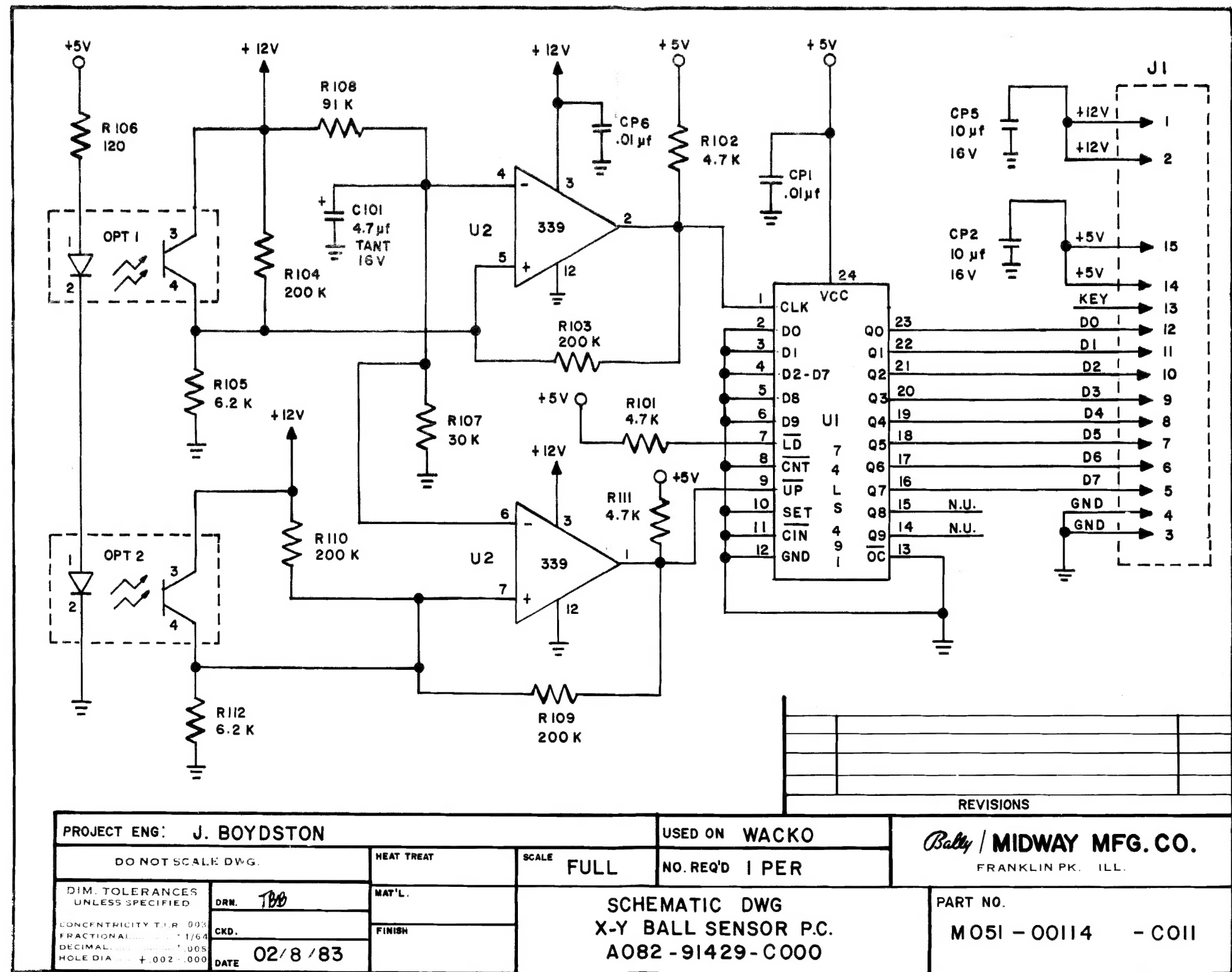


CROSS REFERENCE LIST

DESCRIPTION	Q'TY	DESIGNATION NO.	PART NO.
.01 µf 50V AX. CER.	2	CP1, CP6	0628-00800-0100
4.7 µf 16V RAD. TANT.	1	C 101	0628-00800 0200
10 µf 16V AX. ELECT.	2	CP2, CP5	0628-00800-0300
120 ohm 1/4 W 5%	1	R 106	0062-116 B3-1XXX
4.7 K " "	3	R 101, R102, R111	0062-211 B3-1XXX
6.2 K " "	2	R 105, R112	0062-217 B3-1XXX
30 K " "	1	R 107	0062-249 B3-1XXX
91 K " "	1	R 108	0062-273 B3-1XXX
200 K " "	4	R103, R104, R109, R110	0062-289 B3-1XXX
74 LS491	1	U 1	0628-00803-2700
LM 339	1	U 2	0628-00803-2900
OPTICAL SENSORS	2	OPT 1, OPT 2	0639-00804-0001
15 PIN KK-100 RT. ANGLE PIN 13 OMITTED	1	J 1	3000-16366-1502
SCREW	4	—	0017-00101-0084
PLATE-NUT	2	—	0643-00112-0080
P.C BOARD	1	—	A080-91429-C000

REVISIONS		

PROJECT ENG: J. BOYDSTON			USED ON WACKO		Bally / MIDWAY MFG. CO. FRANKLIN PK. ILL.
DO NOT SCALE DWG.		HEAT TREAT	SCALE FULL	NO. REQ'D 1 PER	
DIM. TOLERANCES UNLESS SPECIFIED		DRN. TBE	MAT'L.	ASSEMBLY DWG X-Y BALL SENSOR A082-91429-C000	
CONCENTRICITY T.Y.R. 003		CKD.	FINISH		
FRACTIONAL 1/64		DATE 02/8/83			
DECIMAL .005					
HOLE DIA +.002-.000				PART NO. M051-00114 -C010	



WACKO	
OPTION SWITCH SETTINGS	
SWITCH NO. 1 — AT B3 — LOCATED ON SOUND I/O P.C. BOARD	
DURING GAME PLAY:	SW#1 SW#2 SW#3 SW#4 SW#5 SW#6 SW#7 SW#8 SW#9 SW#10 NOT NOT NOT NOT NOT NOT NOT NOT USED USED USED USED USED USED USED USED
UPRIGHT/MINI COCKTAIL TABLE	ON OFF
FREEZE VIDEO **NORMAL OPERATION	ON OFF
SWITCH NO. 3 — AT D14 — LOCATED ON SOUND I/O P.C. BOARD	
**NORMAL OPERATION SOUND I/O DIAGNOSTIC MODE	SW#1 SW#2 SW#3 SW#4 OFF ON
**NORMAL OPERATION RAM/ROM TEST INDICATES TEST RESULTS VIA YELLOW LED ON SOUND I/O BOARD: FAST FLASH = BAD ROM SLOW FLASH = BAD RAM	OFF ON
**NORMAL OPERATION OSCILLATOR TEST	OFF ON
**NORMAL OPERATION FILTER TEST	OFF ON
* NO EFFECT IF SW#1 OF SWITCH NO. 3 IS IN THE "OFF" POSITION. ** FACTORY RECOMMENDED SETTINGS.	
PART NO. M051-00337-A007	

THE REMAINDER OF YOUR NEW GAME'S MOST COMMON OPTION SETTINGS ARE CONDUCTED DURING THE **MACHINE SETUP** PORTION OF THE SELF-TEST MODE AND WILL BE COVERED IN DETAIL IN THAT SECTION OF YOUR MANUAL.